

Service Manual

Pioneer

DEH-P330/X1N/UC



ORDER NO.
CRT2575

MULTI-CD CONTROL HIGH POWER CD PLAYER WITH FM/AM TUNER

DEH-P330

X1N/UC

DEH-P3300

X1N/UC

DEH-P33

X1N/UC

COMPACT
disc
DIGITAL AUDIO

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-958	CRT2423	S8.1	CD Mech. Module:Circuit Description, Mech. Description, Disassembly

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● CD Player Service Precautions

1. For pickup unit(CXX1285) handling, please refer to "Disassembly"(see page 49).
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the service pickup unit(see page 43).

1. SAFETY INFORMATION

CAUTION

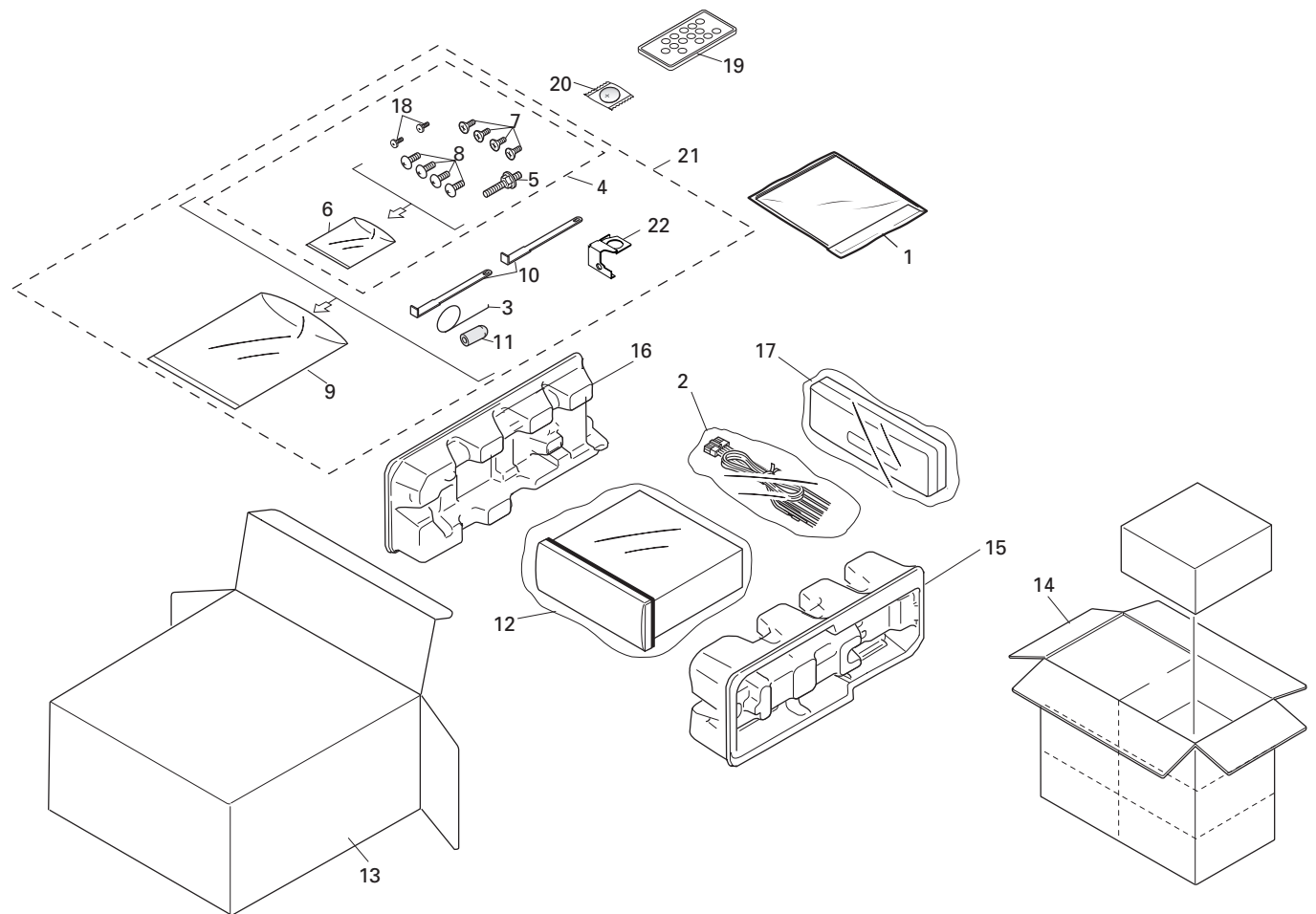
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.
Health & Safety Code Section 25249.6 - Proposition 65

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING



NOTE:

- Parts marked by “*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

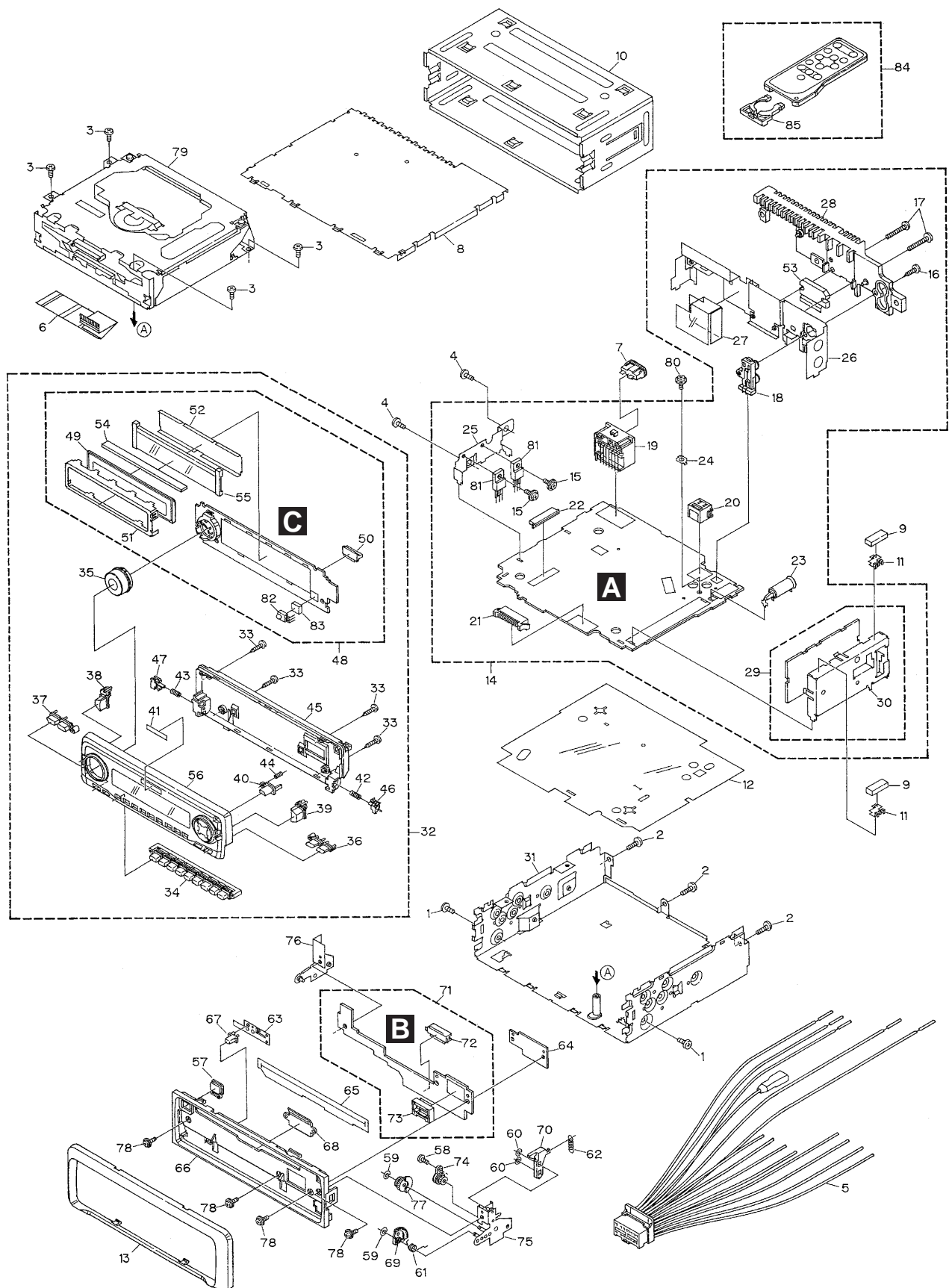
● PACKING SECTION PARTS LIST

Mark No.	Symbol and Description	Part No.		
		DEH-P330/X1N/UC	DEH-P3300/X1N/UC	DEH-P33/X1N/UC
	1-1 Owner's Manual	CRD3300	CRD3307	CRD3307
	1-2 Installation Manual	CRD3310	CRD3314	CRD3314
*	1-3 Card	Not used	ARY1048	ARY1048
*	1-4 Warranty Card	CRY1070	Not used	Not used
	1-5 Polyethylene Bag	CEG1116	CEG1116	CEG1116
*	1-6 Caution Card	CRP1242	CRP1242	CRP1242
	2 Cord Assy	CDE6436	CDE6436	CDE6436
	3 Spring	CBH1650	CBH1650	CBH1650
	4 Screw Assy	CEA2796	CEA2796	CEA2796
	5 Screw	CBA1002	CBA1002	CBA1002
*	6 Polyethylene Bag	CEG-127	CEG-127	CEG-127
	7 Screw	CRZ50P090FMC	CRZ50P090FMC	CRZ50P090FMC
	8 Screw	TRZ50P080FMC	TRZ50P080FMC	TRZ50P080FMC
*	9 Polyethylene Bag	CEG-158	CEG-158	CEG-158
	10 Handle	CNC5395	CNC5395	CNC5395
	11 Bush	CNV3930	CNV3930	CNV3930
	12 Polyethylene Bag	CEG1173	CEG1173	CEG1173
	13 Carton	CHG4273	CHG4272	CHG4274
	14 Contain Box	CHL4273	CHL4272	CHL4274
	15 Protector	CHP2251	CHP2251	CHP2251
	16 Protector	CHP2252	CHP2252	CHP2252
	17 Case Assy	CXB3520	CXB3520	Not used
	18 Screw	BPZ20P060FZK	BPZ20P060FZK	BPZ20P060FZK
	19 Remote Control Unit	CXB6797	Not used	Not used
*	20 Battery	CEX1065	Not used	Not used
	21 Accessory Assy	CEA2773	CEA2773	CEA2773
	22 Earth Plate	CNC9450	CNC9450	CNC9450

● Owner's Manual, Installation Manual

Model	Part No.	Language
DEH-P330/X1N/UC	CRD3300, CRD3310	English, French, Spanish
DEH-P33/X1N/UC	CRD3307, CRD3314	English, French, Spanish
DEH-P3300/X1N/UC		

2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

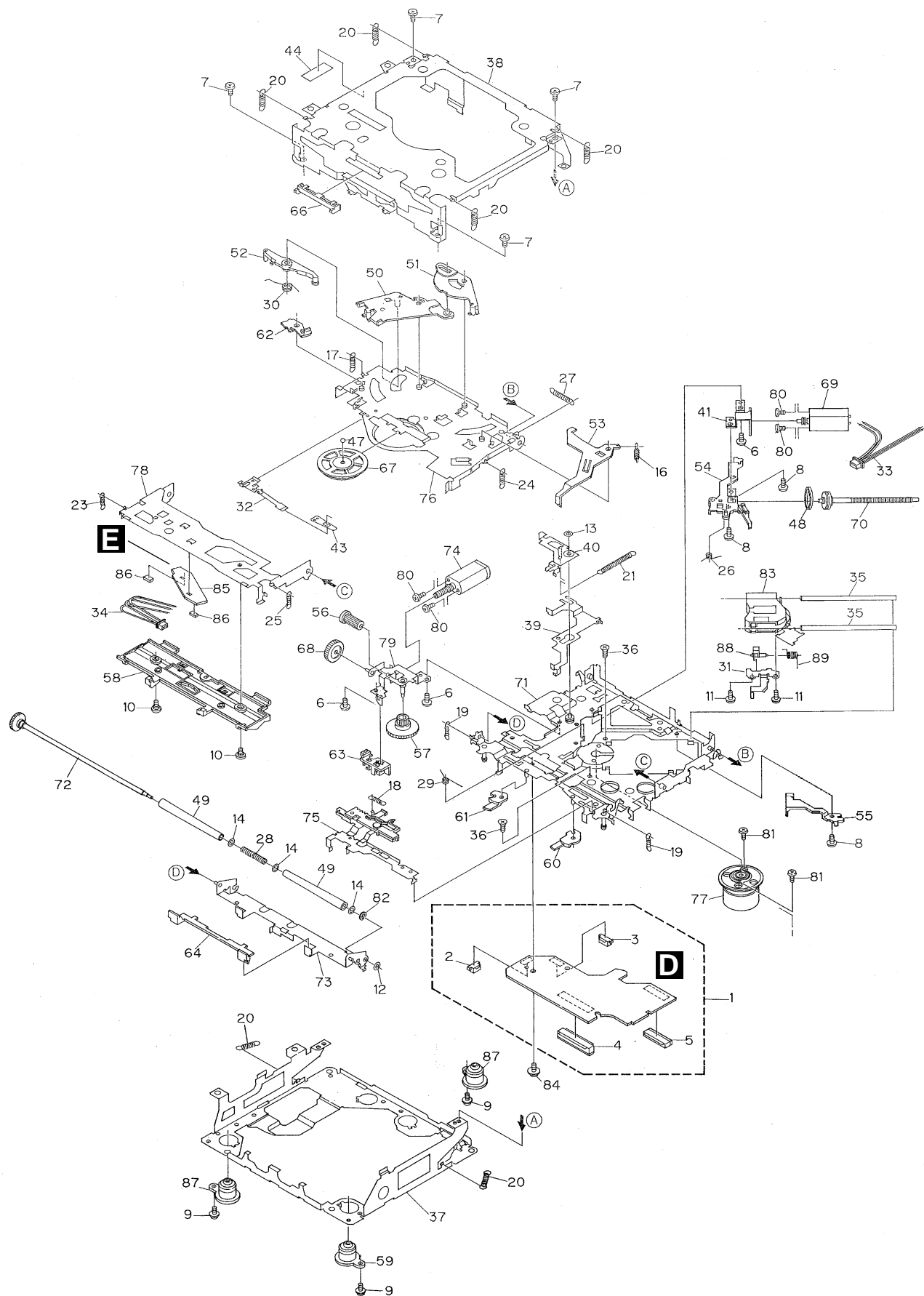
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ30P040FZK	46	Holder	CNV6505
2	Screw	BMZ30P100FMC	47	Holder	CNV6506
3	Screw	BSZ26P060FMC	48	Keyboard Unit	See Contrast table(2)
4	Screw	BSZ30P060FMC	49	LCD	CAW1628
5	Cord Assy	CDE6436	50	Connector(CN1901)	CKS4205
6	Cable	CDE6444	51	Holder	CNC9053
7	Fuse(10A)	CEK1136	52	Sheet	CNM6969
8	Case	CNB2686	53	IC(IC361)	PAL006A
9	Holder	CNC5704	54	Connector	CNV6440
10	Holder	CNC8659	55	Lighting Conductor	CNV6441
11	Cushion	CNM4870	56	Sub Grille Assy	See Contrast table(2)
12	Insulator	CNM6948	57	Button	CAC6839
13	Panel	CNS6332	58	Screw(M2x2)	CBA1176
14	Tuner Amp Unit	See Contrast table(2)	59	Washer	CBF1038
15	Screw	ASZ26P060FMC	60	Washer	CBF1039
16	Screw	BPZ26P100FMC	61	Spring	CBH2428
17	Screw	BSZ26P160FMC	62	Spring	CBH2429
18	Pin Jack(CN351)	CKB1035	63	Spring	CBL1512
19	Plug(CN901)	CKM1330	64	Holder	CNC9096
20	Connector(CN701)	CKS3408	65	Cover	CNM6854
21	Plug(CN750)	CKS3537	66	Panel	CNS6278
22	Connector(CN501)	CKS4398	67	Pin	CNV6486
23	Antenna Jack(CN402)	CKX1056	68	Lighting Conductor	CNV6487
24	Holder(CN403)	CNC5399	69	Gear	CNV6507
25	Holder	CNC8615	70	Arm	CNV6508
26	Holder	CNC9472	71	Panel Unit	CWM7375
27	Insulator	CNM6949	72	Socket(CN1950)	CKS3550
28	Heat Sink	CNR1583	73	Connector(CN1951)	CKS4206
29	FM/AM Tuner Unit	CWE1563	74	Damper Unit	CXB5070
30	Holder	CNC8815	75	Holder Unit	CXB6356
31	Chassis Unit	CXB6100	76	Holder Unit	CXB6357
32	Detach Grille Assy	See Contrast table(2)	77	Clutch Unit	CXB6358
33	Screw	BPZ20P100FZK	78	Screw	IMS20P045FZK
34	Button(1-6)	CAC6773	79	CD Mechanism Module(S8.1)	CXK5201
35	Knob(VOLUME)	CAC6775	80	Screw	ISS26P055FUC
36	Button(FUNC/AUDIO)	CAC6776	81	Transistor(Q510,Q910)	2SD2396
37	Button(SOURCE/DISP)	CAC6777	82	IC(IC1902)	SBX8035-H
38	Button(EQ)	CAC6778	83	Cushion	CNM6984
39	Button(SFEQ)	CAC6779	84	Remote Control Unit	See Contrast table(2)
40	Button(OPEN)	CAC6780	85	Cover	See Contrast table(2)
*	41 Badge	See Contrast table(2)			
	42 Spring	CBH2430			
	43 Spring	CBH2431			
	44 Spring	CBH2491			
	45 Cover	CNS6282			

(2) CONTRAST TABLE

DEH-P330/X1N/UC, DEH-P3300/X1N/UC and DEH-P33/X1N/UC are constructed the same except for the following:

Mark No.	Symbol and Description	Part No.		
		DEH-P330/X1N/UC	DEH-P3300/X1N/UC	DEH-P33/X1N/UC
14	Tuner Amp Unit	CWM7388	CWM7385	CWM7387
32	Detach Grille Assy	CXB6300	CXB6297	CXB6299
* 41	Badge	CAH1755	CAH1754	CAH1754
48	Keyboard Unit	CWM7407	CWM7407	CWM7409
56	Sub Grille Assy	CXB7159	CXB7160	CXB7161
84	Remote Control Unit	CXB6797	Not used	Not used
85	Cover	CNS6439	Not used	Not used

2.3 CD MECHANISM MODULE



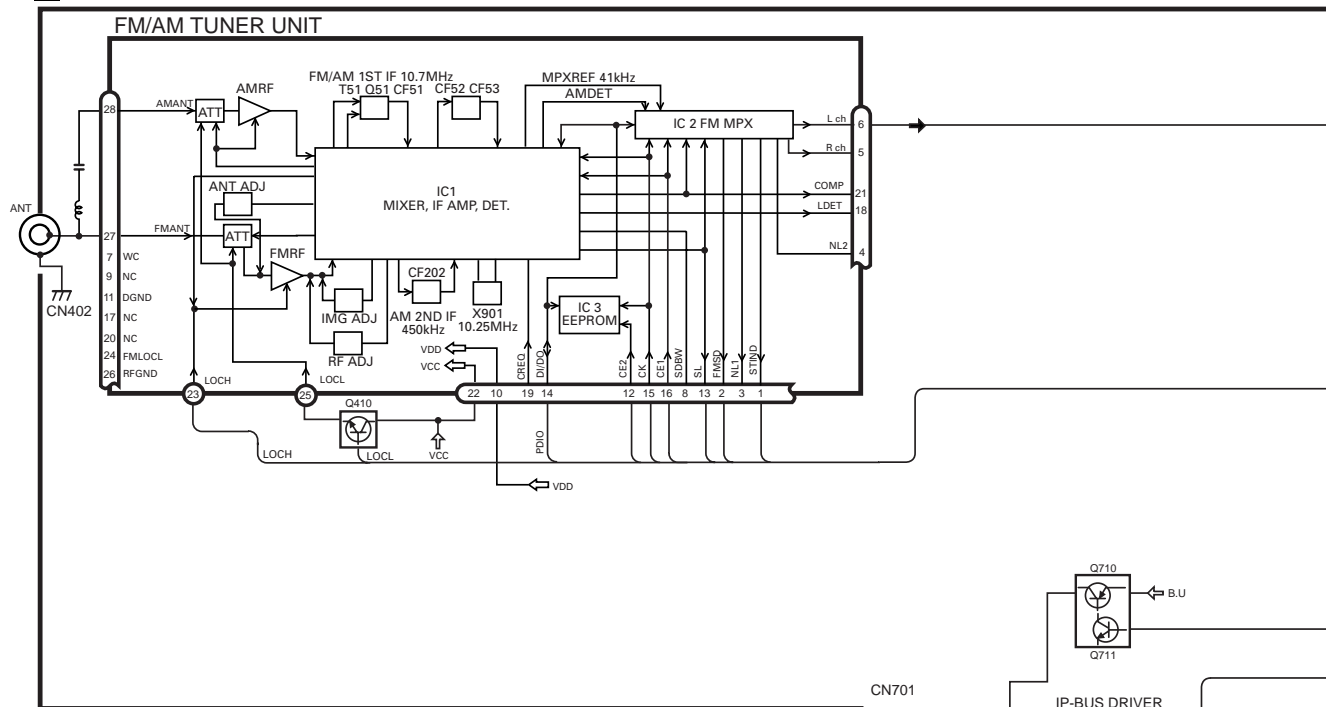
● CD MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Control Unit	CWX2411	46	.....
2	Connector(CN802)	CKS2192	47	Ball	CNR1189
3	Connector(CN801)	CKS2193	48	Belt	CNT1086
4	Connector(CN701)	CKS2773	49	Roller	CNV4509
5	Connector(CN101)	CKS3486	50	Arm	CNV6037
6	Screw	BMZ20P030FMC	51	Arm	CNV5247
7	Screw	BSZ20P040FMC	52	Arm	CNV5248
8	Screw(M2x3)	CBA1077	53	Arm	CNV5249
9	Screw(M2x5)	EBA1028	54	Guide	CNV5254
10	Screw	CBA1243	55	Guide	CNV5255
11	Screw(M2x4)	CBA1362	56	Gear	CNV5257
12	Washer	CBF1037	57	Gear	CNV5256
13	Washer	CBF1038	58	Guide	CNV6272
14	Washer	CBF1060	59	Damper	CNV6010
15	.....		60	Arm	CNV6096
16	Spring	CBH2079	61	Arm	CNV6031
17	Spring	CBH2117	62	Arm	CNV6211
18	Spring	CBH2314	63	Guide	CNV6012
19	Spring	CBH2110	64	Guide	CNV5510
20	Spring	CBH2282	65	.....
21	Spring	CBH2318	66	Guide	CNV5751
22	.....		67	Clamper	CNV6013
23	Spring	CBH2324	68	Gear	CNV5813
24	Spring	CBH2118	69	Motor Unit(M1)	CXB2190
25	Spring	CBH2161	70	Screw Unit	CXB5892
26	Spring	CBH2163	71	Chassis Unit	CXB4797
27	Spring	CBH2189	72	Gear Unit	CXB4728
28	Spring	CBH2377	73	Arm Unit	CXB5753
29	Spring	CBH2260	74	Motor Unit(M2)	CXB2195
30	Spring	CBH2262	75	Lever Unit	CXB4730
31	Bracket	CNC8568	76	Arm Unit	CXB4731
32	Spring	CBL1531	77	Motor Unit(M3)	CXB2562
33	Connector	CDE5531	78	Arm Unit	CXB4732
34	Connector	CDE5532	79	Bracket Unit	CXB4795
35	Shaft	CLA3894	80	Screw	JFZ20P025FMC
36	Screw(M2.6x6)	CBA1458	81	Screw	JGZ17P025FZK
37	Frame	CNC8565	82	Washer	YE20FUC
38	Frame	CNC8749	83	Pickup Unit(Service)(P8)	CXX1285
39	Lever	CNC9265	84	Screw	IMS26P030FMC
40	Arm	CNC8663	* 85	PCB	CNX2982
41	Bracket	CNC8567	86	Photo-transistor(Q1, 2)	CPT230SX-TU
42	.....		87	Damper	CNV6011
43	Spacer	CNM3315	88	Rack	CNV6014
44	Sheet	CNM6659	89	Spring	CBH2315
45	.....			

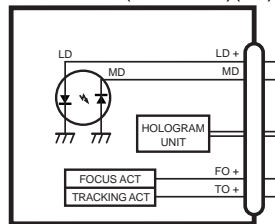
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

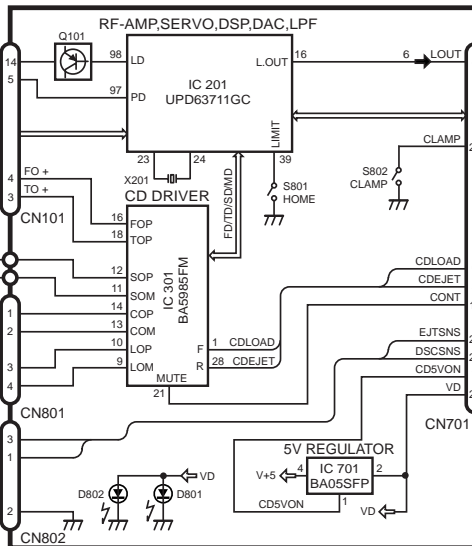
A TUNER AMP UNIT



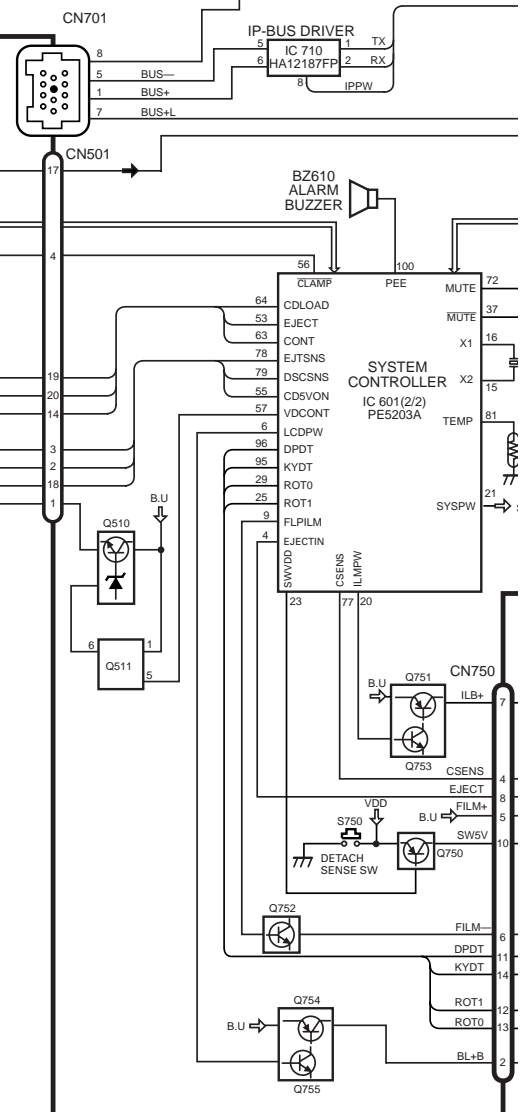
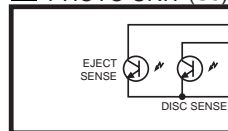
B PICKUP UNIT(SERVICE)(P8)

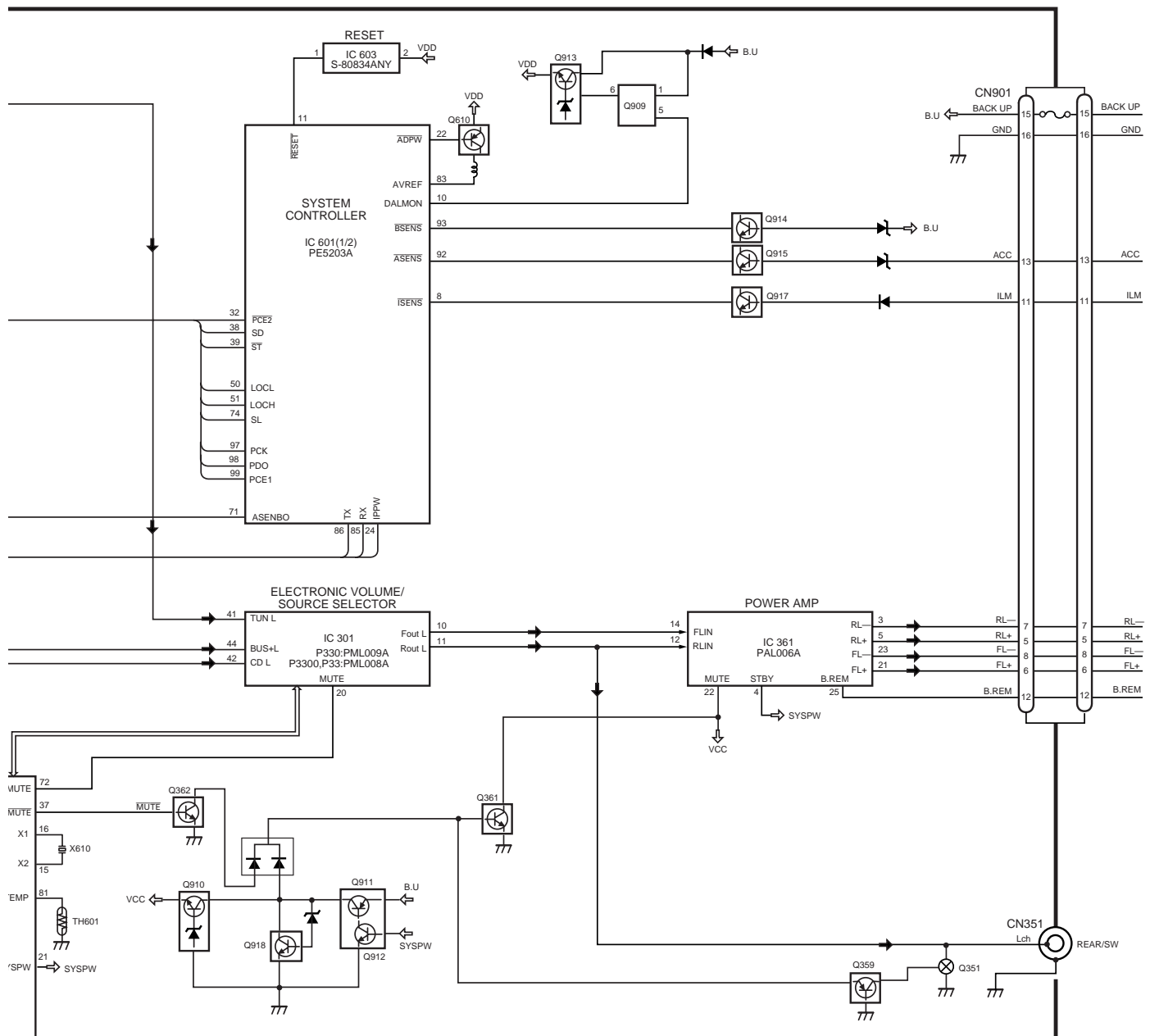
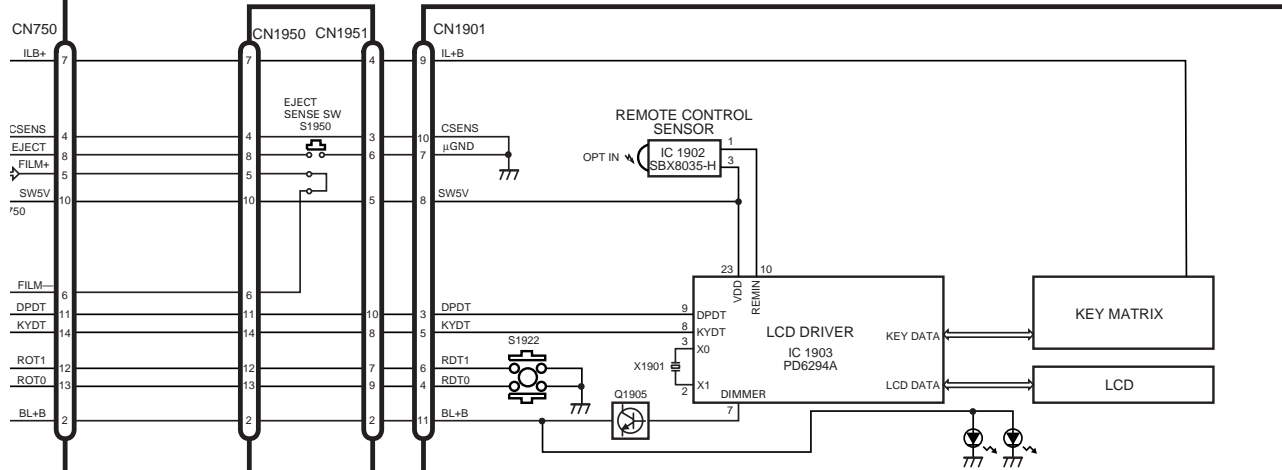


C CONTROL UNIT



D PHOTO UNIT (S8)



**B** PANEL UNIT**C** KEYBOARD UNIT

A

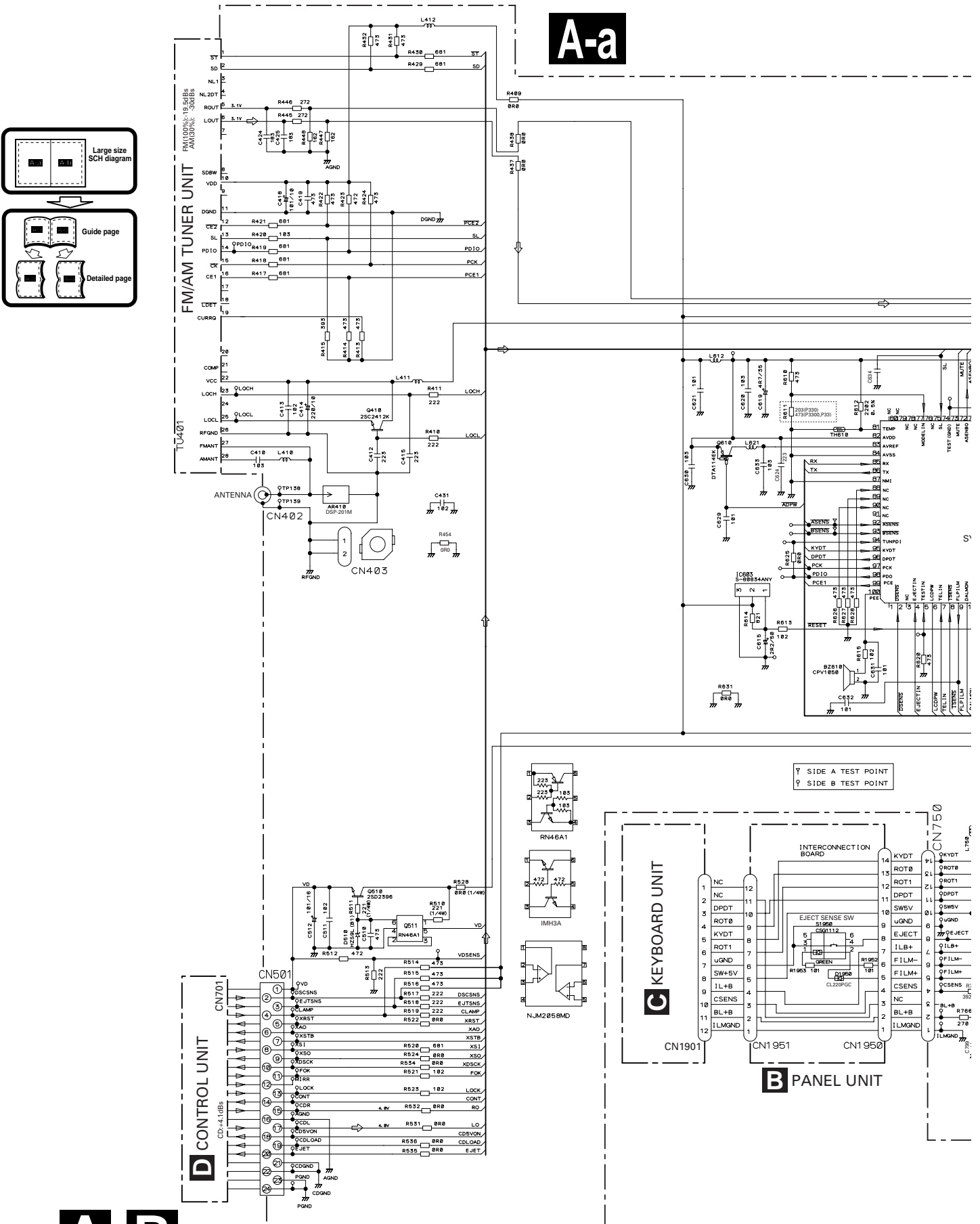
B

C

D

3.2 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to “EXPLODED VIEWS AND PARTS LIST” or “ELECTRICAL PARTS LIST”.





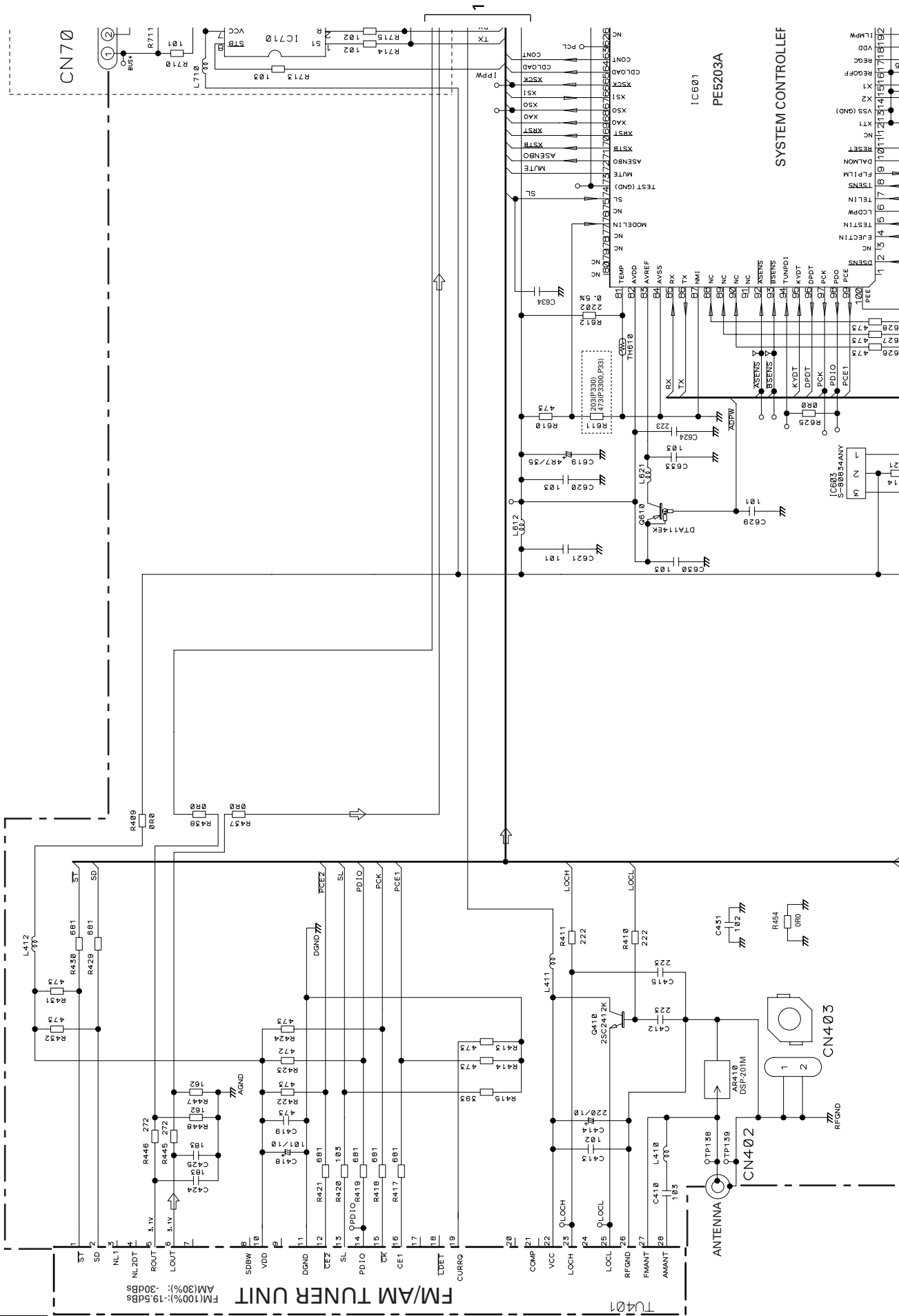
A-a A-b

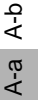
A

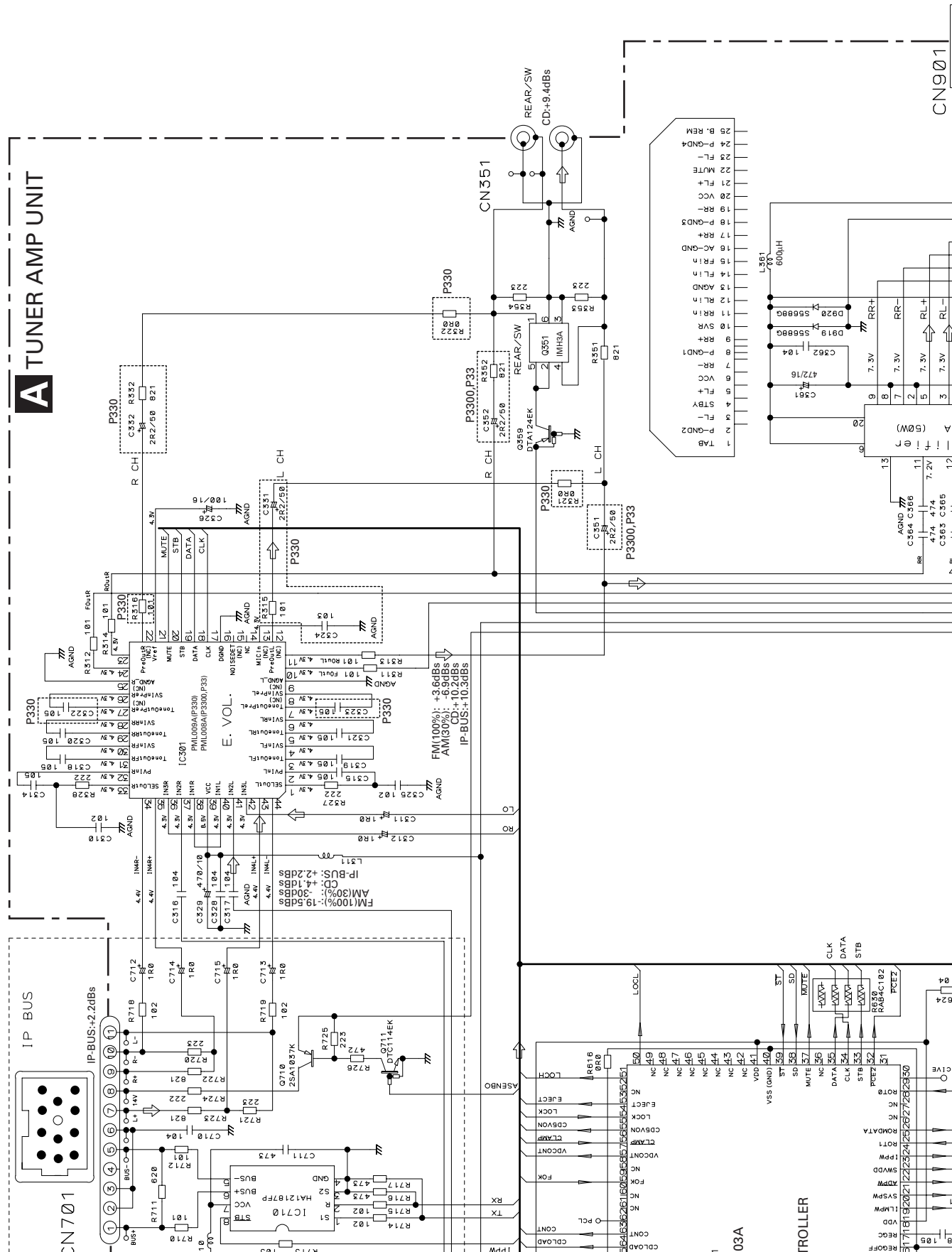
B

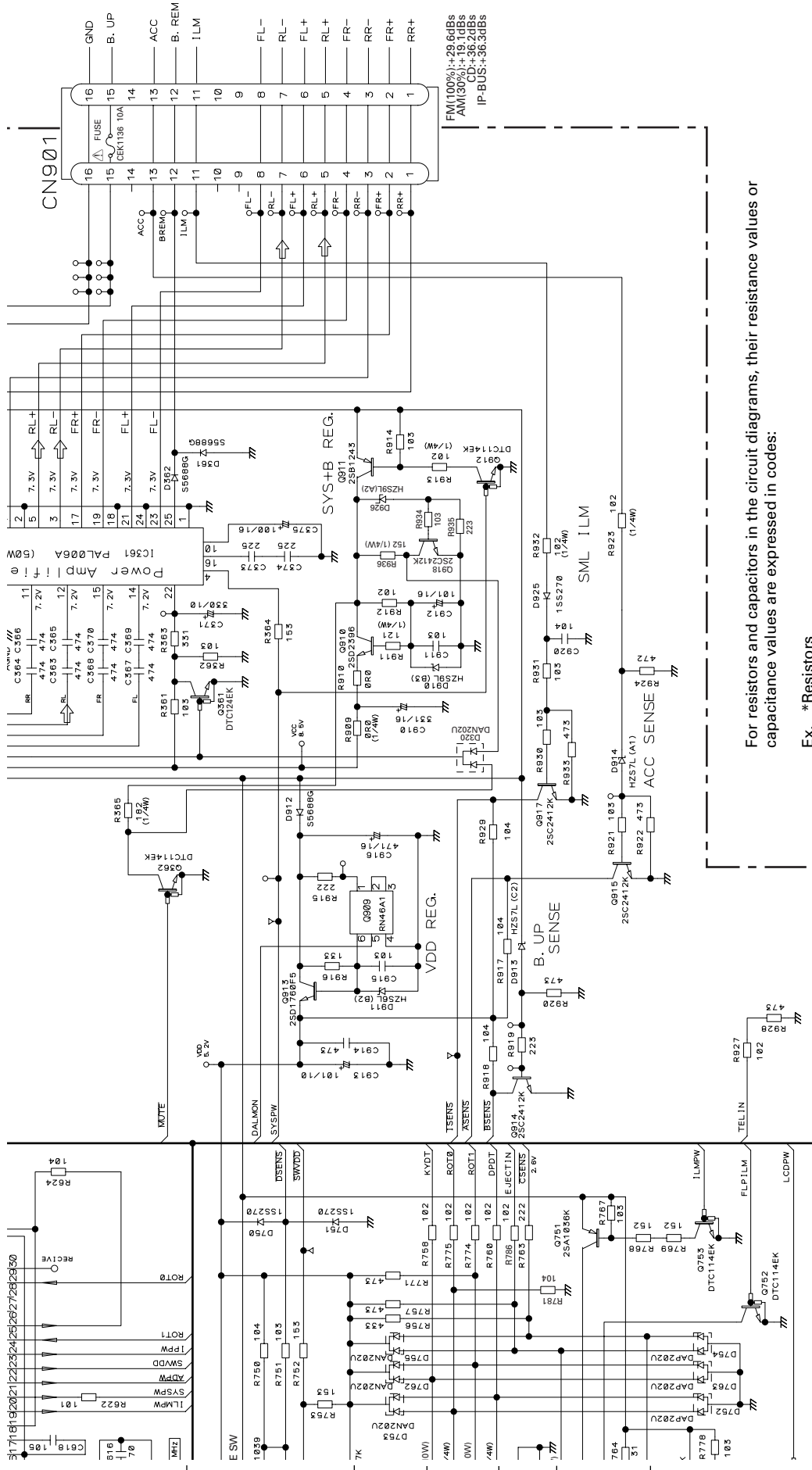
C

D







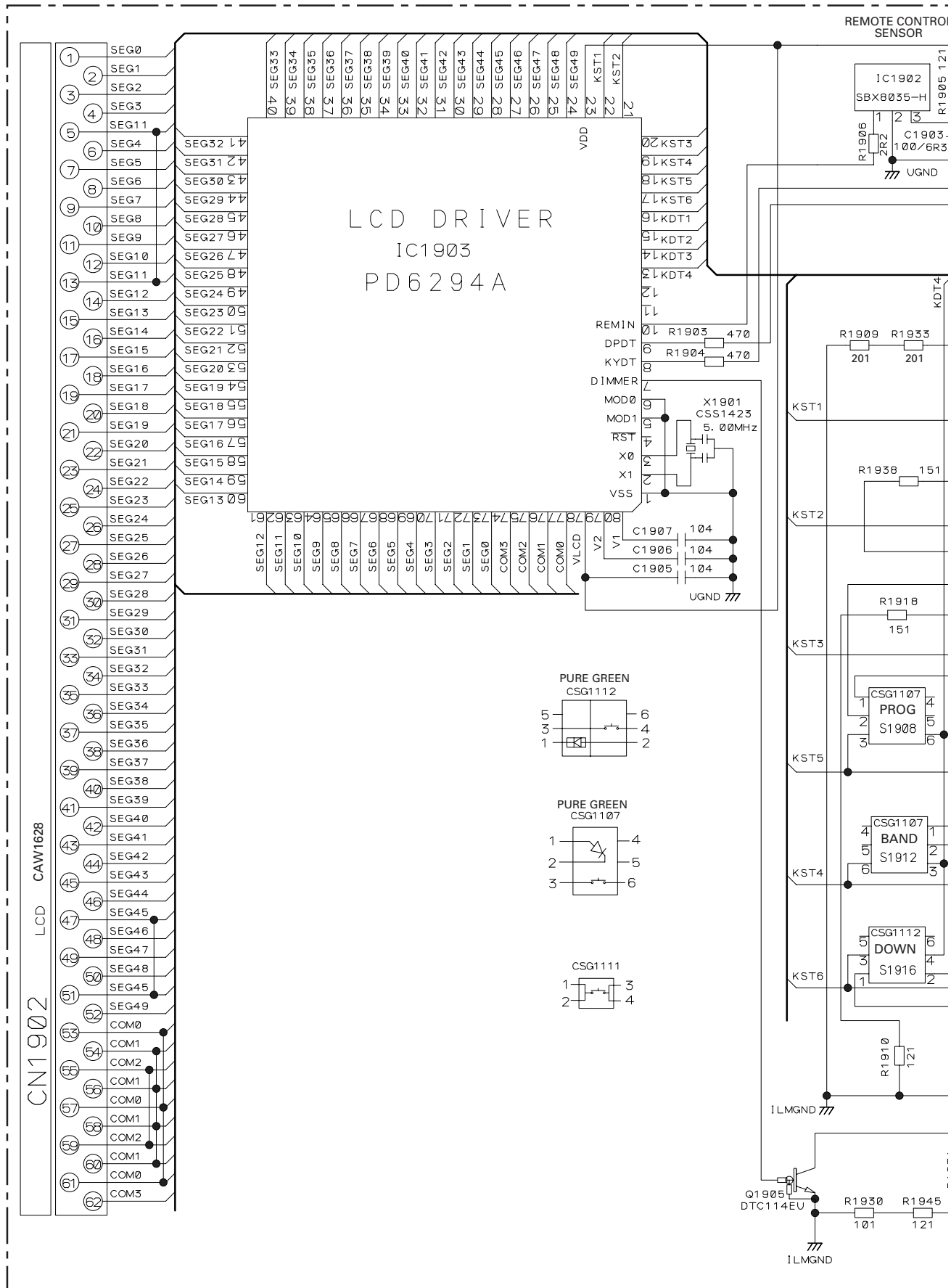


For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

*Resistors	
Code	Practical value
123	12k ohms
103	10k ohms
*Capacitors	
Code	Practical value
103	0.01uF
101/10	100uF/10V

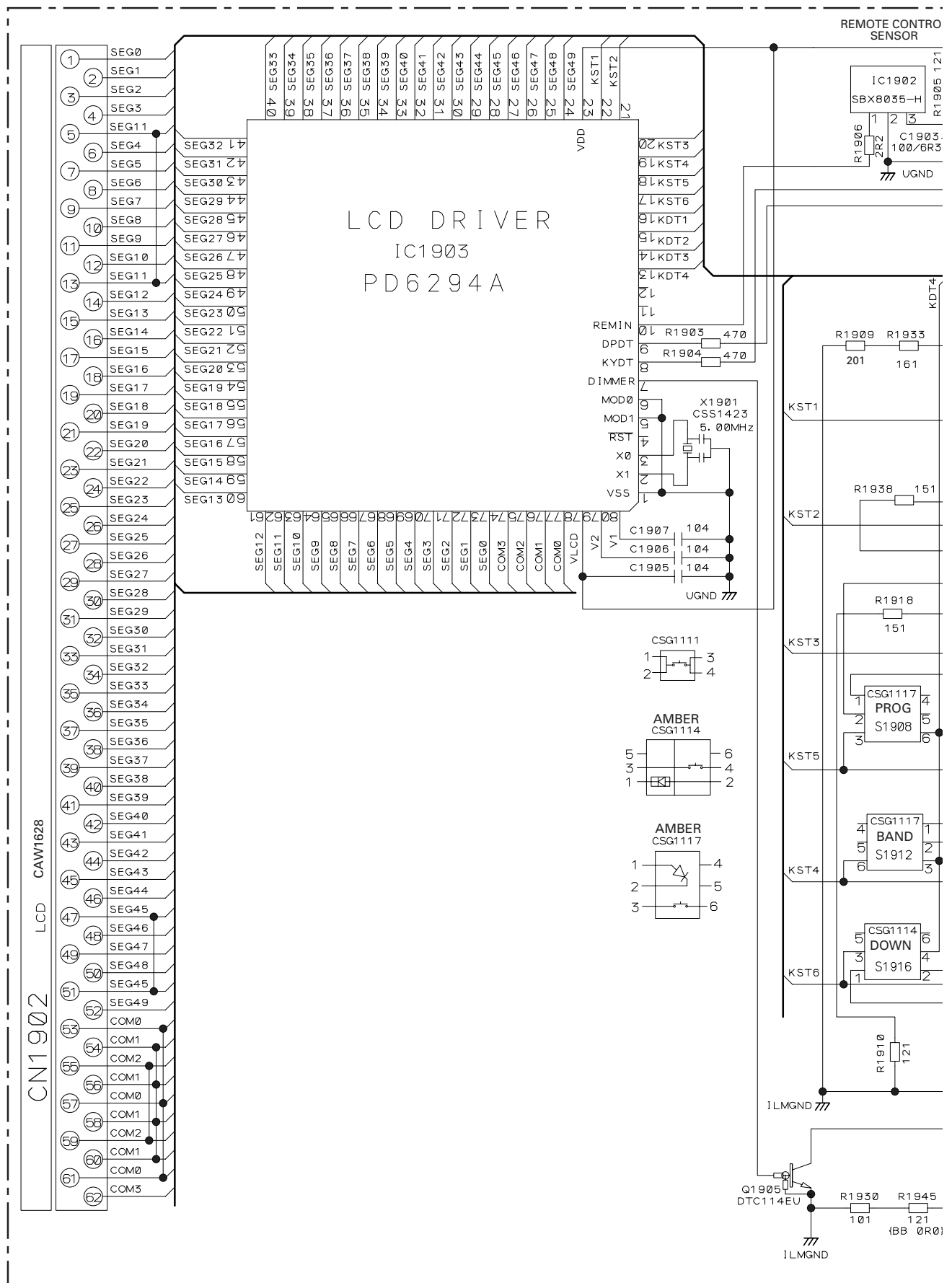
mark found on some component parts indicates
 the tolerance of the safety factor of the part.
 e, when replacing, be sure to use parts of
 the same designation.

3.3 KEYBOARD UNIT(DEH-P330/X1N/UC, DEH-P3300/X1N/UC)

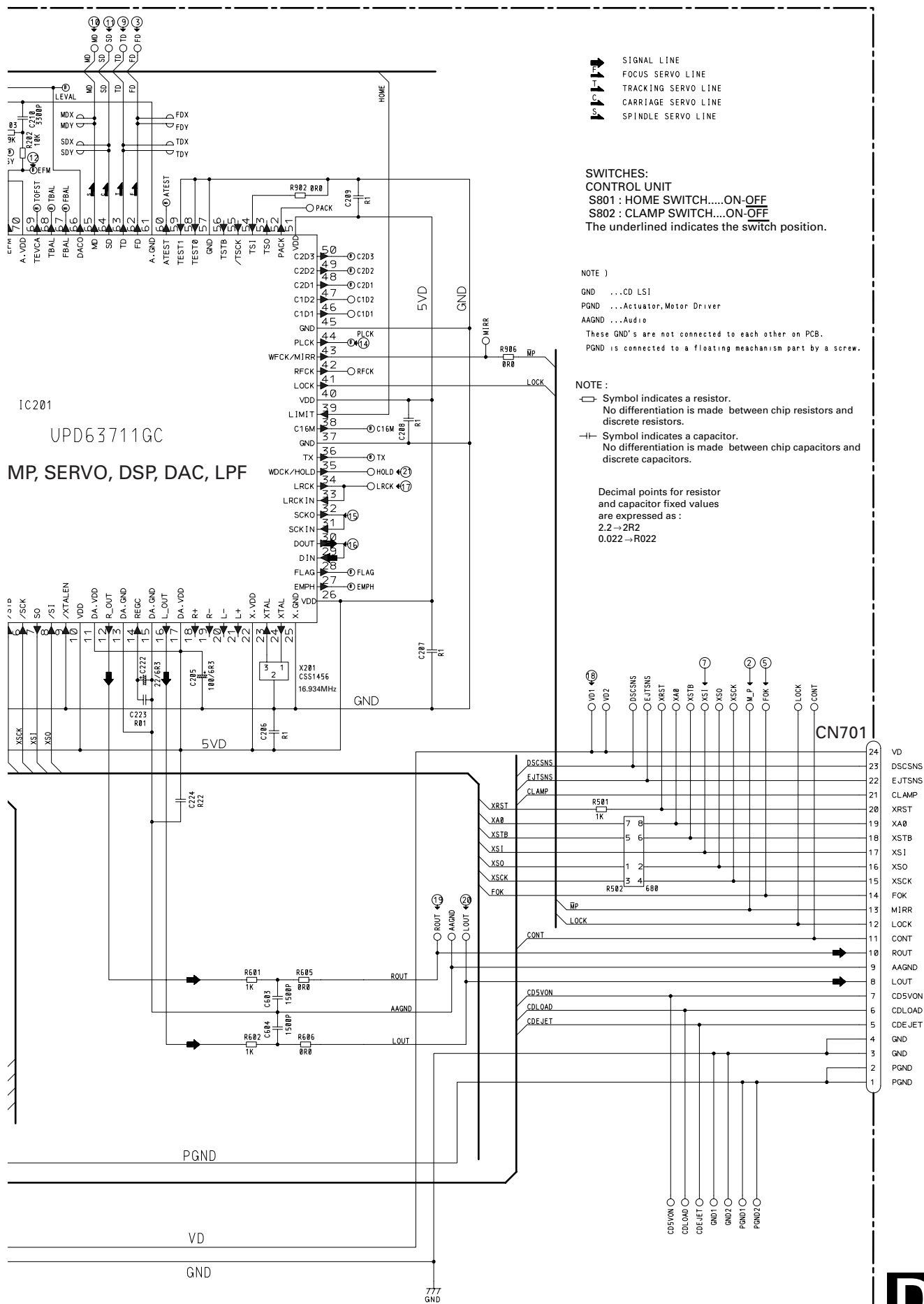




3.4 KEYBOARD UNIT(DEH-P33/X1N/UC)







A

B

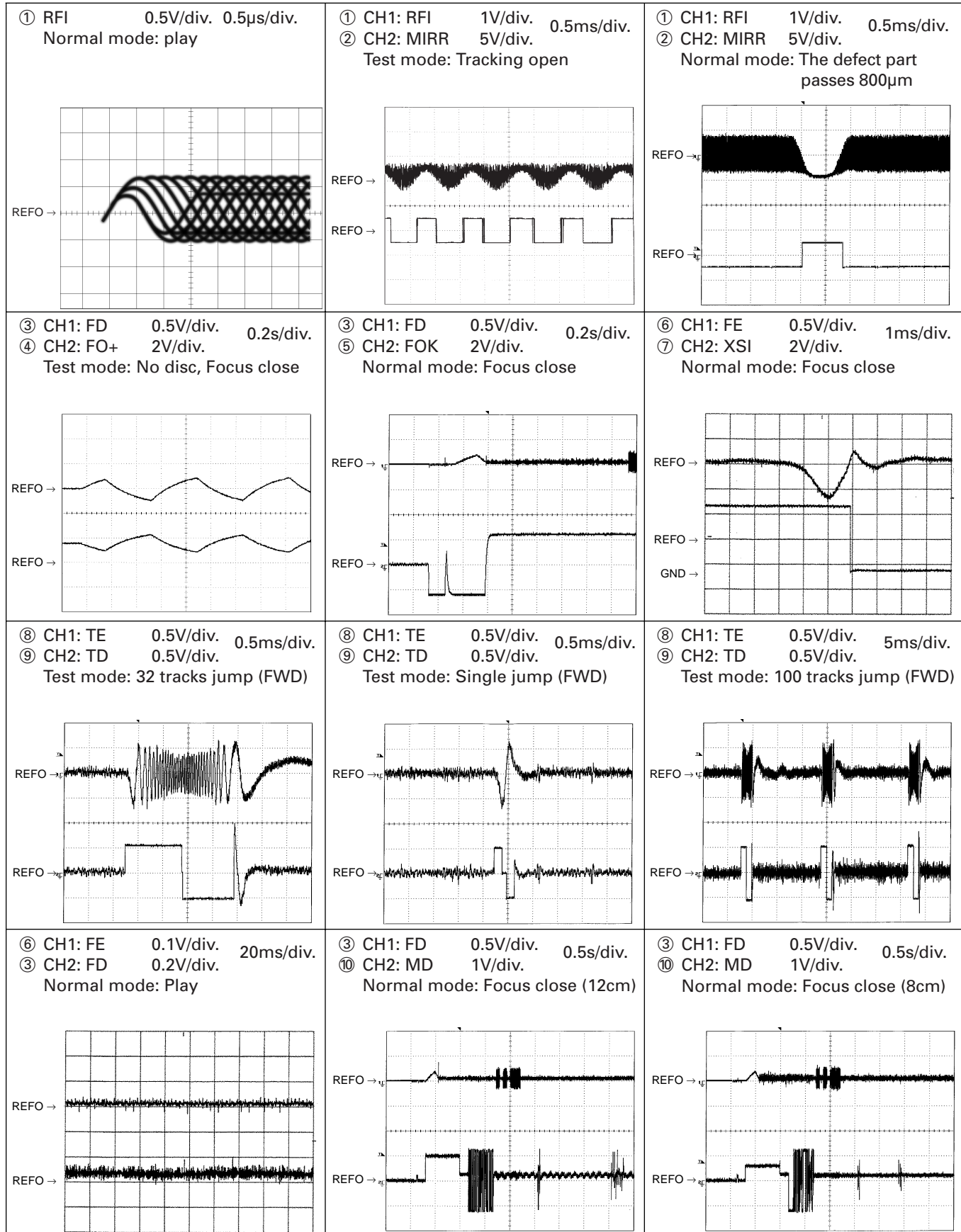
C

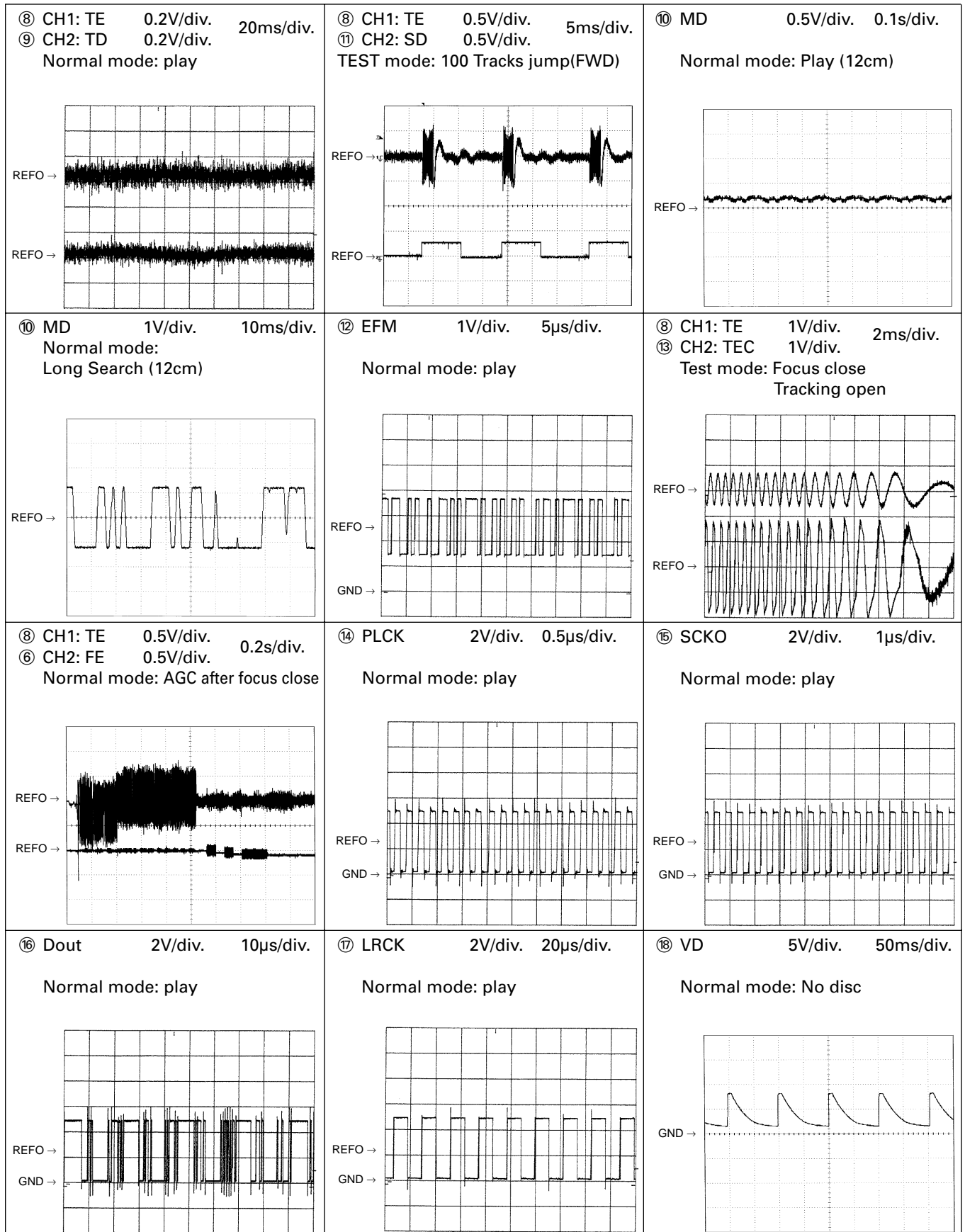
D

A CN501

Note:1. The encircled numbers denote measuring pointes in the circuit diagram.
2. Reference voltage
REFO:2.5V

● Waveforms





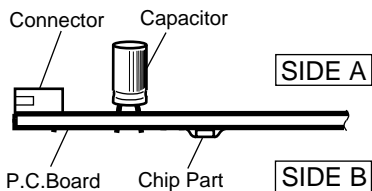
<div><div><div>⑱ CH1: R OUT 1V/div. 0.2ms/div.</div><div>⑳ CH2: L OUT 1V/div. 0.2ms/div.</div><div>Normal mode: Play (1kHz 0dB)</div></div><div></div></div>	<div><div><div>⑥ CH1: FE 0.2V/div. 1ms/div.</div><div>③ CH2: FD 0.5V/div. 1ms/div.</div><div>Normal mode: During AGC</div></div><div></div></div>	<div><div><div>⑧ CH1: TE 0.2V/div. 1ms/div.</div><div>⑨ CH2: TD 0.5V/div. 1ms/div.</div><div>Normal mode: During AGC</div></div><div></div></div>
<div><div><div>① CH1: RFI 1V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div. 0.5ms/div.</div><div>Normal mode: The defect part passes 800μm(B.D)</div></div><div></div></div>	<div><div><div>③ CH1: FD 0.5V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div. 0.5ms/div.</div><div>Normal mode: The defect part passes 800μm(B.D)</div></div><div></div></div>	<div><div><div>⑨ CH1: TD 0.1V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div. 0.5ms/div.</div><div>Normal mode: The defect part passes 800μm(B.D)</div></div><div></div></div>

4. PCB CONNECTION DIAGRAM

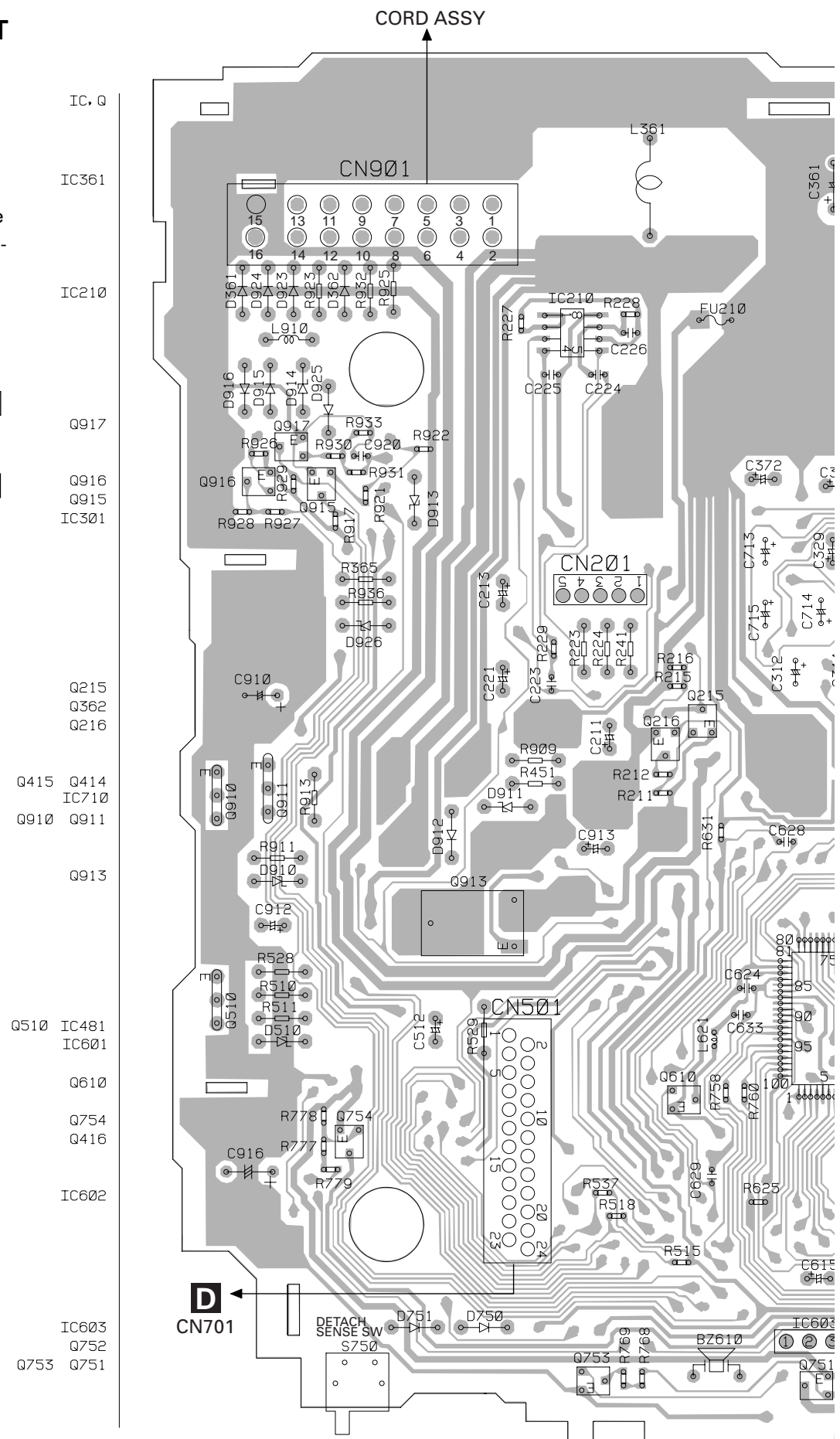
4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

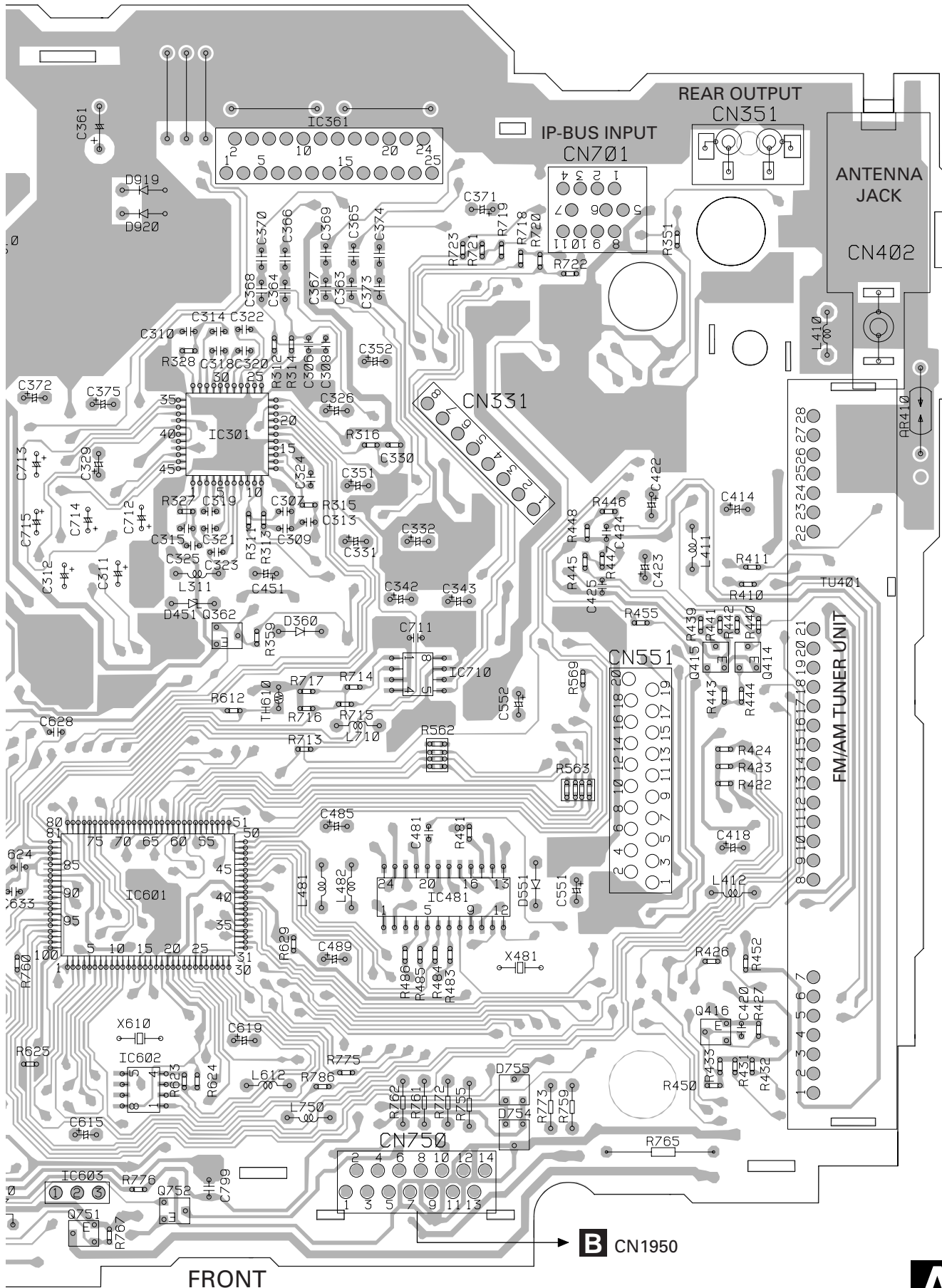
1. The parts mounted on this PCB include all necessary parts for several destination.
For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



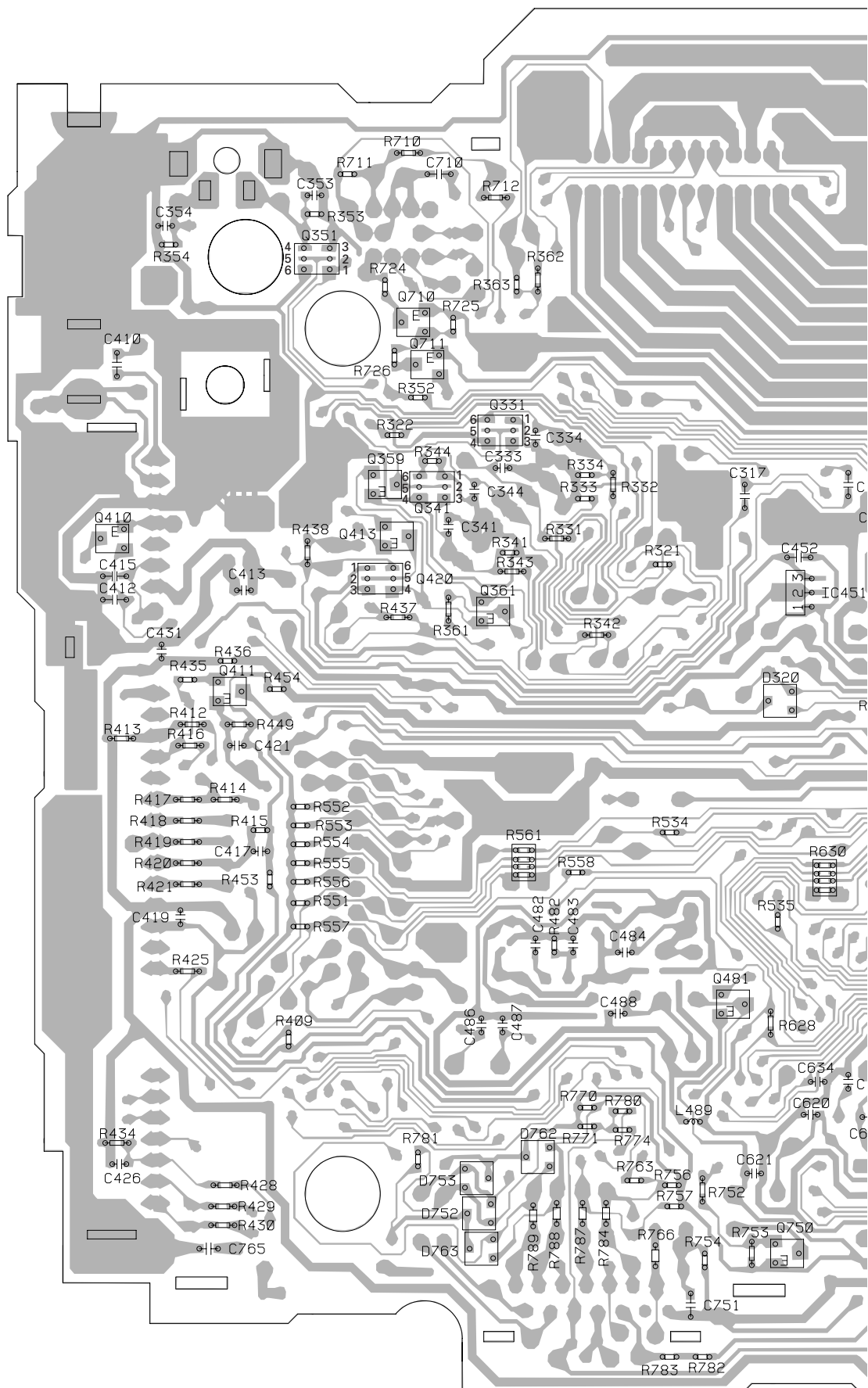
A TUNER AMP UNIT



SIDE A



A TUNER AMP UNIT



A

B

C

D

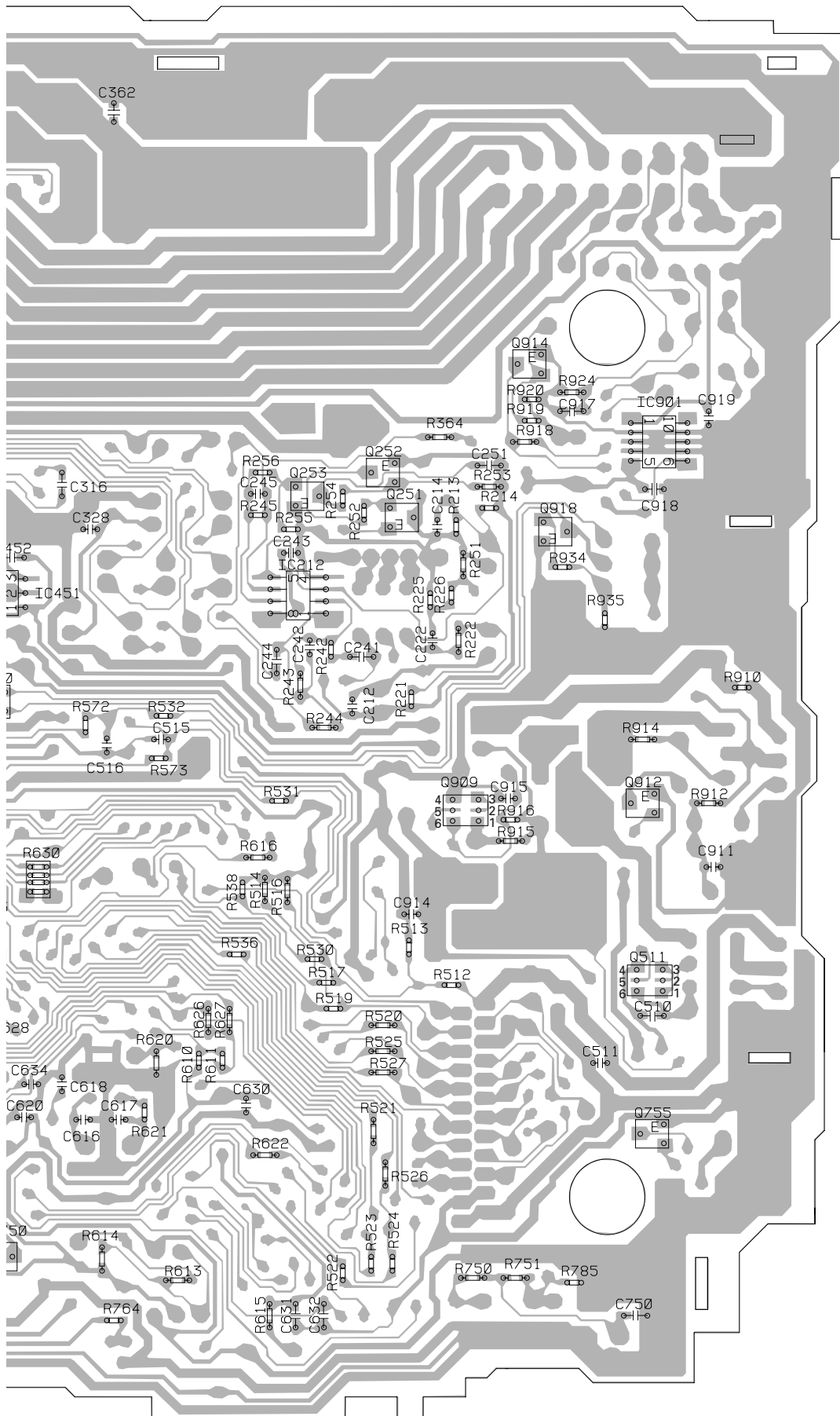
1

2

3

4

SIDE B



IC, Q

Q351

Q710

Q711 Q914

Q331 IC901

Q252 Q253
Q359Q341 Q251
Q410 Q918
Q413
IC212
Q420
Q361 IC451

Q411

Q909 Q912

Q511
Q481

Q755

Q750

A

B

C

D

4.2 PANEL UNIT

A

SIDE A

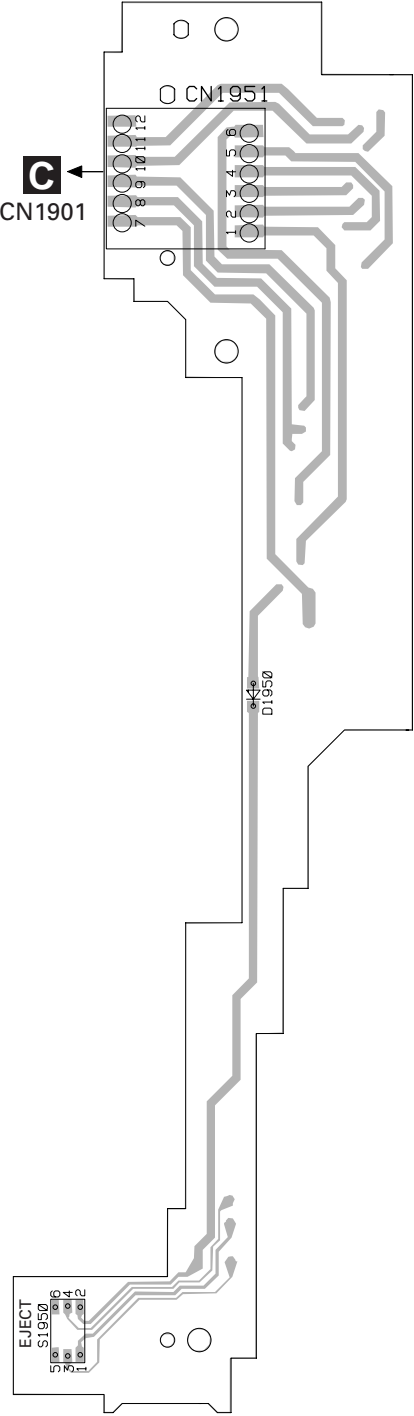
SIDE B

B

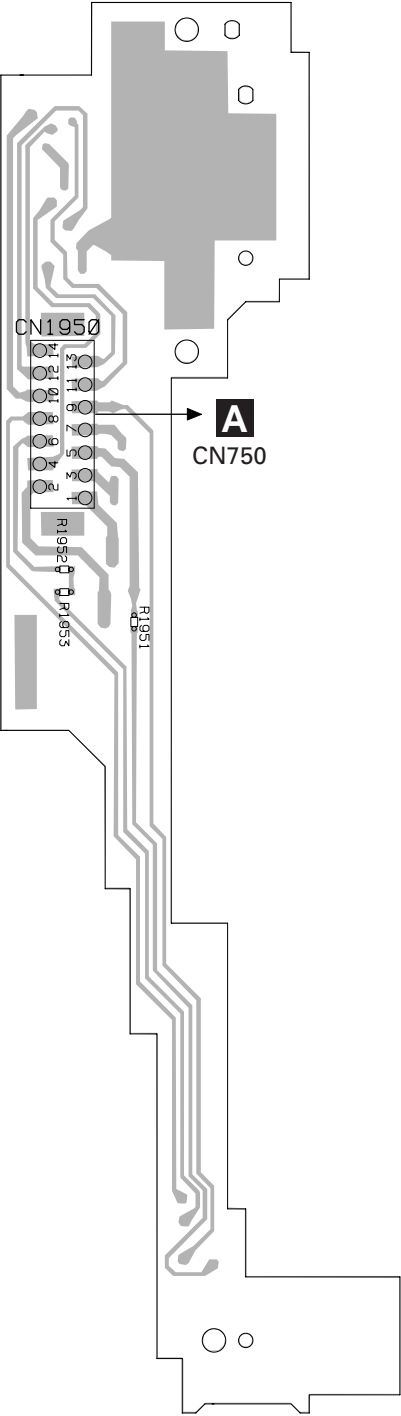
C

D

B PANEL UNIT



B PANEL UNIT



34 DE

F PHOTO UNIT(S8)

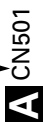
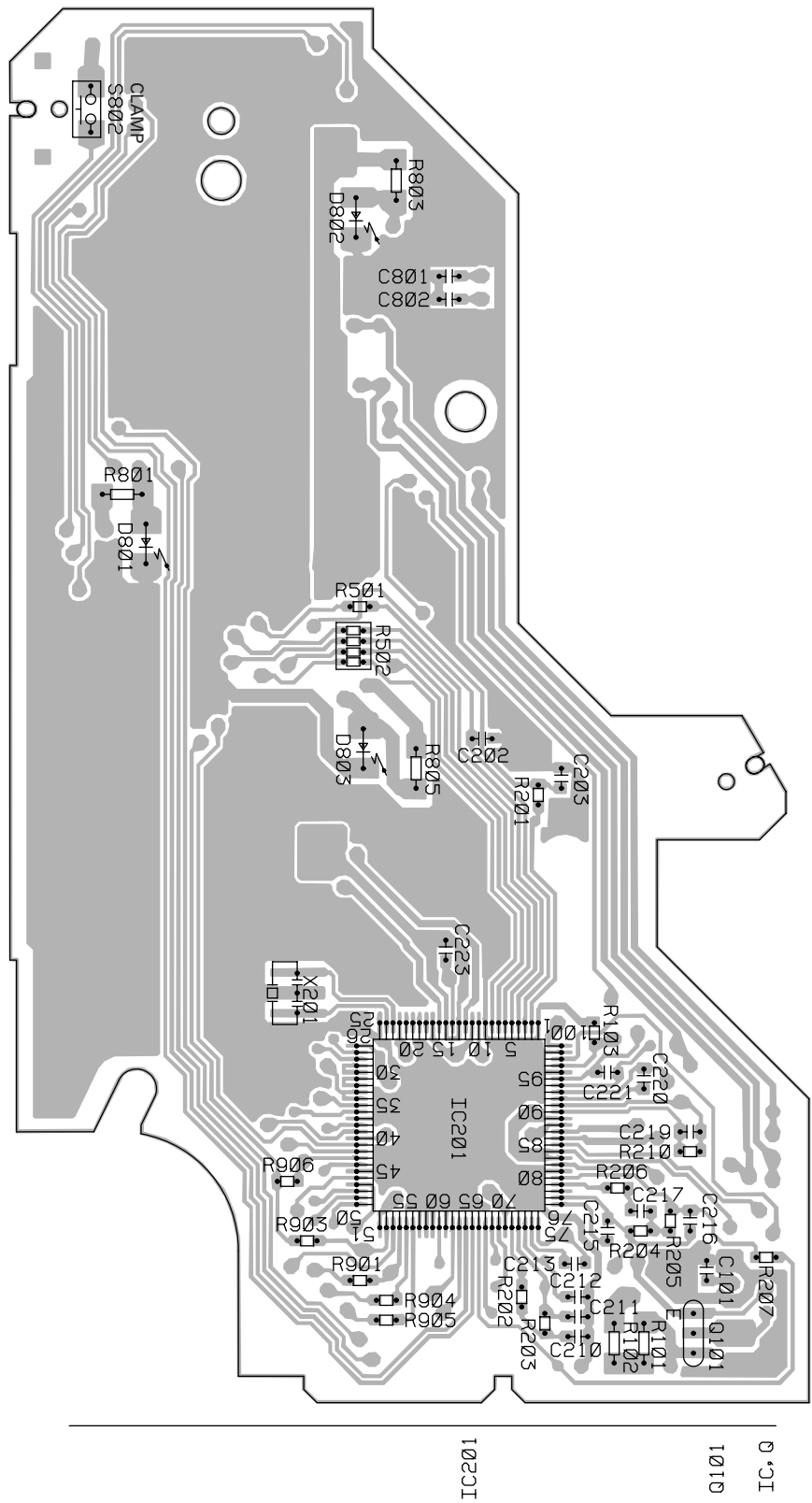


PHOTO UNIT(S8)

SIDE B

D CONTROL UNIT



5. ELECTRICAL PARTS LIST

NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○○J,RS1/○○S○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
A Unit Number : CWM7388(DEH-P330/X1N/UC)		D 925 Diode	1SS270
Unit Number : CWM7385(DEH-P3300/X1N/UC)		D 926 Diode	HZS9L(A2)
Unit Number : CWM7387(DEH-P33/X1N/UC)		L 311 Ferri-Inductor	LAU4R7K
Unit Name : Tuner Amp Unit		L 361 Choke Coil 600μH	CTH1221
		L 410 Ferri-Inductor	LAU4R7K
		L 411 Ferri-Inductor	LAU2R2K
		L 412 Ferri-Inductor	LAU2R2K
		L 612 Inductor	LAU100K
		L 621 Inductor	CTF1346
		L 710 Ferri-Inductor	LAU2R2K
		L 750 Ferri-Inductor	LAU2R2K
		TH 610 Thermistor	CCX1037
		X 610 Radiator 12.5829MHz	CSS1495
		S 750 Switch(DETACH SENSE)	CSN1039
		BZ 610 Buzzer	CPV1050
		AR 410 Arrester	DSP-201M
		FM/AM Tuner Unit	CWE1563
MISCELLANEOUS		RESISTORS	
IC 301 IC(DEH-P330/X1N/UC)	PML009A	R 311	RS1/16S101J
IC(DEH-P3300/X1N/UC,P33/X1N/UC)	PML008A	R 312	RS1/16S101J
IC 361 IC	PAL006A	R 313	RS1/16S101J
IC 601 IC	PE5203A	R 314	RS1/16S101J
IC 603 IC	S-80834ANY	R 315 (DEH-P330/X1N/UC)	RS1/16S101J
IC 710 IC	HA12187FP	R 316 (DEH-P330/X1N/UC)	RS1/16S101J
Q 351 Transistor	IMH3A	R 321 (DEH-P330/X1N/UC)	RS1/16S0R0J
Q 359 Transistor	DTA124EK	R 322 (DEH-P330/X1N/UC)	RS1/16S0R0J
Q 361 Transistor	DTC124EK	R 327	RS1/16S222J
Q 362 Transistor	DTC114EK	R 328	RS1/16S222J
Q 410 Transistor	2SC2412K	R 332 (DEH-P330/X1N/UC)	RS1/16S821J
Q 510 Transistor	2SD2396	R 351 (DEH-P33/X1N/UC)	RS1/16S821J
Q 511 Transistor	RN46A1	R 352	RS1/16S821J
Q 610 Transistor	DTA114EK	R 353	RS1/16S223J
Q 710 Transistor	2SA1037K	R 354	RS1/16S223J
Q 711 Transistor	DTC114EK	R 361	RS1/16S103J
Q 750 Transistor	2SA1037K	R 362	RS1/16S103J
Q 751 Transistor	2SA1036K	R 363	RS1/16S331J
Q 752 Transistor	DTC114EK	R 364	RS1/16S153J
Q 753 Transistor	DTC114EK	R 365	RD1/4PU182J
Q 754 Transistor	2SA1037K	R 409	RS1/16S0R0J
Q 755 Transistor	DTC114EK	R 410	RS1/16S222J
Q 909 Transistor	RN46A1	R 411	RS1/16S222J
Q 910 Transistor	2SD2396	R 413	RS1/16S473J
Q 911 Transistor	2SB1243	R 414	RS1/16S473J
Q 912 Transistor	DTC114EK	R 415	RS1/16S393J
Q 913 Transistor	2SD1760F5	R 417	RS1/16S681J
Q 914 Transistor	2SC2412K	R 418	RS1/16S681J
Q 915 Transistor	2SC2412K	R 419	RS1/16S681J
Q 917 Transistor	2SC2412K	R 420	RS1/16S103J
Q 918 Transistor	2SC2412K	R 421	RS1/16S681J
D 320 Diode	DAN202U	R 422	RS1/16S473J
D 361 Diode	S5688G	R 423	RS1/16S472J
D 362 Diode	S5688G	R 424	RS1/16S473J
D 510 Diode	HZS9L(B1)	R 429	RS1/16S681J
D 750 Diode	1SS270		
D 751 Diode	1SS270		
D 752 Diode	DAP202U		
D 753 Diode	DAN202U		
D 754 Diode	DAP202U		
D 755 Diode	DAN202U		
D 762 Diode	DAN202U		
D 763 Diode	DAP202U		
D 910 Diode	HZS9L(B3)		
D 911 Diode	HZS6L(B2)		
D 912 Diode	S5688G		
D 913 Diode	HZS7L(C2)		
D 914 Diode	HZS7L(A1)		
D 919 Diode	S5688G		
D 920 Diode	S5688G		

====Circuit Symbol and No.==Part Name	Part No.	====Circuit Symbol and No.==Part Name	Part No.
R 430	RS1/16S681J	R 754	RS1/16S222J
R 431	RS1/16S473J	R 756	RS1/16S433J
R 432	RS1/16S473J	R 757	RS1/16S473J
R 437	RS1/16S0R0J	R 758	RS1/16S102J
R 438	RS1/16S0R0J	R 759	RD1/4PU222J
R 445	RS1/16S272J	R 760	RS1/16S102J
R 446	RS1/16S272J	R 763	RS1/16S222J
R 447	RS1/16S162J	R 764	RS1/16S131J
R 448	RS1/16S162J	R 765	RS1PMF390J
R 454	RS1/16S0R0J	R 766	RS1/10S270J
R 510	RD1/4PU221J	R 767	RS1/16S103J
R 511	RD1/4PU221J	R 768	RS1/16S152J
R 512	RS1/16S472J	R 769	RS1/16S152J
R 513	RS1/16S222J	R 771	RS1/16S473J
R 514	RS1/16S473J	R 773	RD1/4PU222J
R 515	RS1/16S473J	R 774	RS1/16S102J
R 516	RS1/16S473J	R 775	RS1/16S102J
R 517	RS1/16S222J	R 776	RS1/16S220J
R 518	RS1/16S222J	R 777	RS1/16S0R0J
R 519	RS1/16S222J	R 778	RS1/16S103J
R 520	RS1/16S681J	R 779	RS1/16S472J
R 521	RS1/16S102J	R 781	RS1/16S104J
R 522	RS1/16S0R0J	R 782	RS1/16S131J
R 523	RS1/16S102J	R 783	RS1/16S131J
R 524	RS1/16S0R0J	R 784	RS1/10S392J
R 528	RD1/4PU0R0J	R 786	RS1/16S102J
R 531	RS1/16S0R0J	R 787	RS1/10S472J
R 532	RS1/16S0R0J	R 788	RS1/10S222J
R 534	RS1/16S0R0J	R 789	RS1/10S222J
R 535	RS1/16S0R0J	R 909	RD1/4PU0R0J
R 536	RS1/16S0R0J	R 910	RS1/16S0R0J
R 610	RS1/16S473J	R 911	RD1/4PU121J
R 611	(DEH-P330/X1N/UC) (DEH-P3300/X1N/UC,P33/X1N/UC) RS1/16S203J	R 912	RS1/16S102J
R 612	RS1/16S473J RS1/16S2202F	R 913	RD1/4PU102J
		R 914	RS1/16S103J
R 613	RS1/16S102J	R 915	RS1/16S222J
R 614	RS1/16S821J	R 916	RS1/16S133J
R 615	RS1/16S102J	R 917	RS1/16S104J
R 616	RS1/16S0R0J	R 918	RS1/16S104J
R 620	RS1/16S473J	R 919	RS1/16S223J
R 621	RS1/16S331J	R 920	RS1/16S473J
R 622	RS1/16S101J	R 921	RS1/16S103J
R 624	RS1/16S104J	R 922	RS1/16S473J
R 625	RS1/16S0R0J	R 923	RD1/4PU102J
R 626	RS1/16S473J	R 924	RS1/16S472J
R 627	RS1/16S473J	R 927	RS1/16S102J
R 628	RS1/16S473J	R 928	RS1/16S473J
R 630	RAB4C102J	R 929	RS1/16S104J
R 631	RS1/16S0R0J	R 930	RS1/16S103J
R 710	RS1/16S101J	R 931	RS1/16S103J
R 711	RS1/16S620J	R 932	RD1/4PU102J
R 712	RS1/16S101J	R 933	RS1/16S473J
R 713	RS1/16S103J	R 934	RS1/16S103J
R 714	RS1/16S102J	R 935	RS1/16S223J
R 715	RS1/16S102J	R 936	RD1/4PU152J
R 716	RS1/16S473J	CAPACITORS	
R 717	RS1/16S473J	C 310	CKSRYB102K50
R 718	RS1/16S102J	C 311	CEJA1R0M50
R 719	RS1/16S102J	C 312	CEJA1R0M50
R 720	RS1/16S223J	C 314	CKSRYB105K6R3
		C 315	CKSRYB105K6R3
R 721	RS1/16S223J		
R 722	RS1/16S821J	C 316	CKSRYB104K16
R 723	RS1/16S821J	C 317	CKSRYB104K16
R 724	RS1/16S222J	C 318	CKSRYB105K6R3
R 725	RS1/16S223J	C 319	CKSRYB105K6R3
		C 320	CKSRYB105K6R3
R 726	RS1/16S472J		
R 750	RS1/16S104J		
R 751	RS1/16S103J		
R 752	RS1/16S153J		
R 753	RS1/16S153J		

====Circuit Symbol and No.====Part Name	Part No.
C 321	CKSRYB105K6R3
C 322 (DEH-P330/X1N/UC)	CKSRYB105K6R3
C 323 (DEH-P330/X1N/UC)	CKSRYB105K6R3
C 324 (DEH-P330/X1N/UC)	CKSRYB103K25
C 325	CKSRYB102K50
C 326	CEJA100M16
C 328	CKSRYB104K16
C 329	CEJA470M10
C 331 (DEH-P330/X1N/UC)	CEJA2R2M50
C 332 (DEH-P330/X1N/UC)	CEJA2R2M50
C 351 (DEH-P3300/X1N/UC,P33/X1N/UC)	CEJA2R2M50
C 352 (DEH-P3300/X1N/UC,P33/X1N/UC)	CEJA2R2M50
C 361 4700μF/16V	CCH1367
C 362	CKSQYB104K16
C 363	CKSQYB474K16
C 364	CKSQYB474K16
C 365	CKSQYB474K16
C 366	CKSQYB474K16
C 367	CKSQYB474K16
C 368	CKSQYB474K16
C 369	CKSQYB474K16
C 370	CKSQYB474K16
C 371	CEJA330M10
C 373	CKSQYB225K10
C 374	CKSQYB225K10
C 375	CEJA100M16
C 410	CKSQYB103K50
C 412	CKSRYB223K25
C 413	CKSRYB102K50
C 414	CEJA220M10
C 415	CKSRYB223K25
C 418	CEAL101M10
C 419	CKSRYB473K16
C 424	CKSRYB183K25
C 425	CKSRYB183K25
C 431	CKSRYB102K50
C 510	CKSRYB473K16
C 511	CKSRYB102K50
C 512	CEJA101M16
C 615	CEAL2R2M50
C 616	CCSRCH270J50
C 617	CCSRCH330J50
C 618	CKSRYB105K6R3
C 619	CEAL4R7M35
C 620	CKSRYB103K50
C 621	CCSRCH101J50
C 624	CKSRYB223K25
C 629	CCSRCH101J50
C 630	CKSRYB103K50
C 631	CCSRCH101J50
C 632	CCSRCH101J50
C 633	CKSRYB103K50
C 634	CKSRYB472K50
C 710	CKSRYB104K16
C 711	CKSRYB473K16
C 712	CEJA1R0M50
C 713	CEJA1R0M50
C 714	CEJA1R0M50
C 715	CEJA1R0M50
C 750	CKSRYB103K25
C 751	CKSQYB104K16
C 765	CKSQYB103K50
C 799	CKSQYB473K16
C 910 330μF/16V	CCH1326
C 911	CKSRYB103K25
C 912	CEJA101M16
C 913	CEJA101M10
C 914	CKSRYB473K16
C 915	CKSRYB103K25
C 916 470μF/16V	CCH1331

====Circuit Symbol and No.====Part Name	Part No.
C 920	CKSRYB104K16

C Unit Number : CWM7407(DEH-P330/X1N/UC)
Unit Number : (DEH-P3300/X1N/UC)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1902	IC	SBX8035-H
IC 1903	IC	PD6294A
Q 1905	Transistor	DTC114EU
D 1901	Chip Diode	MA151WK
D 1902	Chip Diode	MA151WA
D 1903	LED	CL170PGCD
D 1917	LED	NSSW440-9159
D 1918	LED	NSSW440-9159
X 1901	Radiator 5.00MHz	CSS1423
S 1901	Push Switch	CSG1112
S 1902	Push Switch	CSG1112
S 1903	Push Switch	CSG1112
S 1904	Push Switch	CSG1112
S 1905	Switch	CSG1107
S 1906	Push Switch	CSG1112
S 1908	Switch	CSG1107
S 1909	Switch	CSG1107
S 1910	Switch	CSG1107
S 1911	Switch	CSG1107
S 1912	Switch	CSG1107
S 1913	Switch	CSG1107
S 1914	Switch	CSG1107
S 1915	Switch	CSG1107
S 1916	Push Switch	CSG1112
S 1917	Push Switch	CSG1112
S 1918	Push Switch	CSG1112
S 1919	Push Switch	CSG1112
S 1920	Push Switch	CSG1111
S 1922	Switch	CSD1061
	LCD	CAW1628

RESISTORS

R 1901	RS1/10S222J
R 1902	RS1/10S222J
R 1903	RS1/16S470J
R 1904	RS1/16S470J
R 1905	RS1/16S121J
R 1906	RS1/16S2R2J
R 1909	RS1/16S201J
R 1910	RS1/16S121J
R 1911	RS1/16S121J
R 1912	RS1/16S121J
R 1913	RS1/16S121J
R 1914	RS1/16S121J
R 1915	RS1/16S121J
R 1916	RS1/16S121J
R 1917	RS1/16S131J
R 1918	RS1/16S151J
R 1919	RS1/16S131J
R 1920	RS1/16S131J
R 1927	RS1/16S472J
R 1929	RS1/16S0R0J
R 1930	RS1/16S101J
R 1931	RS1/16S101J
R 1933	RS1/16S201J
R 1935	RS1/16S393J
R 1936	RS1/16S131J
R 1938	RS1/16S151J
R 1939	RS1/16S131J
R 1941	RS1/16S131J
R 1942	RS1/16S131J
R 1943	RS1/16S131J

====Circuit Symbol and No.==Part Name

Part No.

R 1945
R 1946
R 1949RS1/16S121J
RS1/16S0R0J
RS1/16S151J

CAPACITORS

C 1902
C 1903
C 1905
C 1906
C 1907CKSRYB104K16
CSZS100M6R3
CKSRYB104K16
CKSRYB104K16
CKSRYB104K16C 1923
C 1930CKSQYB104K16
CKSQYB104K16**C** Unit Number : CWM7409(DEH-P33/X1N/UC)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC 1902 IC
IC 1903 IC
Q 1905 Transistor
D 1901 Chip Diode
D 1902 Chip DiodeSBX8035-H
PD6294A
DTC114EU
MA151WK
MA151WAD 1903 LED
D 1917 LED
D 1918 LED
X 1901 Radiator 5.00MHz
S 1901 Push SwitchCL170DCD
NSSW440-9159
NSSW440-9159
CSS1423
CSG1114S 1902 Push Switch
S 1903 Push Switch
S 1904 Push Switch
S 1905 Push Switch
S 1906 Push SwitchCSG1114
CSG1114
CSG1114
CSG1117
CSG1114S 1908 Push Switch
S 1909 Push Switch
S 1910 Push Switch
S 1911 Push Switch
S 1912 Push SwitchCSG1117
CSG1117
CSG1117
CSG1117
CSG1117S 1913 Push Switch
S 1914 Push Switch
S 1915 Push Switch
S 1916 Push Switch
S 1917 Push SwitchCSG1117
CSG1117
CSG1117
CSG1114
CSG1114S 1918 Push Switch
S 1919 Push Switch
S 1920 Push Switch
S 1922 Switch
LCDCSG1114
CSG1114
CSG1111
CSD1061
CAW1628

RESISTORS

R 1901
R 1902
R 1903
R 1904
R 1905RS1/10S222J
RS1/10S222J
RS1/16S470J
RS1/16S470J
RS1/16S121JR 1906
R 1909
R 1910
R 1911
R 1912RS1/16S2R2J
RS1/16S201J
RS1/16S121J
RS1/16S121J
RS1/16S121JR 1913
R 1914
R 1915
R 1916
R 1917RS1/16S121J
RS1/16S121J
RS1/16S121J
RS1/16S121J
RS1/16S131JR 1918
R 1919
R 1920
R 1927
R 1929RS1/16S151J
RS1/16S131J
RS1/16S131J
RS1/16S472J
RS1/16S0R0J

====Circuit Symbol and No.==Part Name

Part No.

R 1930
R 1931
R 1933
R 1935
R 1936RS1/16S101J
RS1/16S101J
RS1/16S201J
RS1/16S393J
RS1/16S131JR 1938
R 1939
R 1941
R 1942
R 1943RS1/16S151J
RS1/16S131J
RS1/16S131J
RS1/16S131J
RS1/16S131JR 1945
R 1946
R 1949RS1/16S121J
RS1/16S0R0J
RS1/16S151J

CAPACITORS

C 1902
C 1903
C 1905
C 1906
C 1907CKSRYB104K16
CSZS100M6R3
CKSRYB104K16
CKSRYB104K16
CKSRYB104K16C 1923
C 1930CKSQYB104K16
CKSQYB104K16**B** Unit Number : CWM7375
Unit Name : Panel Unit

MISCELLANEOUS

D 1950 LED
S 1950 Push SwitchCL220PGC
CSG1112

RESISTORS

R 1952
R 1953RS1/16S101J
RS1/16S101J**D** Unit Number : CWX2411
Unit Name : Control Unit


MISCELLANEOUS

IC 201 IC
IC 301 IC
IC 701 IC
Q 101 Transistor
D 801 Chip LEDUPD63711GC
BA5985FM
BA05SFP
2SB1132
CL203IRXTUD 802 Chip LED
X 201 Ceramic Resonator 16.934MHz
S 801 Spring Switch(HOME)
S 802 Spring Switch(CLAMP)CL203IRXTU
CSS1456
CSN1051
CSN1052

RESISTORS

R 101
R 102
R 103
R 201
R 202RS1/8S120J
RS1/8S100J
RS1/16S222J
RS1/16S104J
RS1/16S103JR 203
R 204
R 205
R 206
R 207RS1/16S393J
RS1/16S103J
RS1/16S103J
RS1/16S182J
RS1/16S123JR 302
R 303
R 501
R 502
R 601RS1/16S153J
RS1/16S103J
RS1/16S102J
RA4C681J
RS1/16S102JR 602
R 605
R 606
R 801
R 803RS1/16S102J
RS1/16S0R0J
RS1/16S0R0J
RS1/8S751J
RS1/8S751J

====Circuit Symbol and No.==Part Name	Part No.
R 902	RS1/16S0R0J
R 906	RS1/16S0R0J
CAPACITORS	
C 101	CKSRYB102K50
C 102	CKSRYB104K16
C 103	CEV101M6R3
C 104	CEV470M6R3
C 105	CKSQYB334K16
C 106	CKSQYB334K16
C 107	CKSQYB334K16
C 201	CKSRYB104K16
C 202	CKSRYB471K50
C 203	CKSRYB104K16
C 205	CEV101M6R3
C 206	CKSRYB104K16
C 207	CKSRYB104K16
C 208	CKSRYB104K16
C 209	CKSRYB104K16
C 210	CKSRYB332K50
C 211	CKSRYB104K16
C 212	CKSRYB104K16
C 213	CKSRYB392K50
C 214	CKSRYB104K16
C 215	CKSRYB104K16
C 216	CCSRCJ3R0C50
C 217	CCSRCH270J50
C 218	CKSRYB104K16
C 219	CCSRCH181J50
C 220	CCSRCH510J50
C 221	CKSRYB682K25
C 222	CEV220M6R3
C 223	CKSRYB103K25
C 224	CKSRYB224K10
C 301	CEV101M10
C 603	CCSQSL152J50
C 604	CCSQSL152J50
C 702 10μF/10V	CCH1349
C 703	CKSQYB334K16

====Circuit Symbol and No.==Part Name	Part No.
 Unit Number :	
Unit Name : Photo Unit(S8)	
Q 1 Photo-transistor	CPT230SX-TU
Q 2 Photo-transistor	CPT230SX-TU
Miscellaneous Parts List	
	Pickup Unit(Service)(P8) CXX1285
M 1 Motor Unit(CARRIAGE)	CXB2190
M 2 Motor Unit(LOADING)	CXB2195
M 3 Motor Unit(SPINDLE)	CXB2562

6. ADJUSTMENT

6.1 CD ADJUSTMENT

1) Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.

If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.

Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.

*During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.

*The unit will not load a disc.

When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

2) Test Mode

This mode is used for adjusting the CD mechanism module of the device.

- Test mode starting procedure
Reset while pressing the 4 and 6 keys together.
- Test mode cancellation
Switch ACC, back-up OFF.
- After pressing the EJECT key, do not press any other key until the disk is completely ejected.
- If the ► or ◀ key is pressed while focus search is in progress, immediately turn the power off (otherwise the actuator may be damaged due to adhesion of the lenses).
- Jump operation of TRs other than 100TR continues after releasing the key. CRG move and 100TR jump operations are brought into the "Tracking close" status when the key is released.
- Powering Off/On resets the jump mode to "Single TR (91)", the RF AMP gain setting to 0 dB, and the automatic adjustment value to the initial value.



6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

• Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• Purpose :

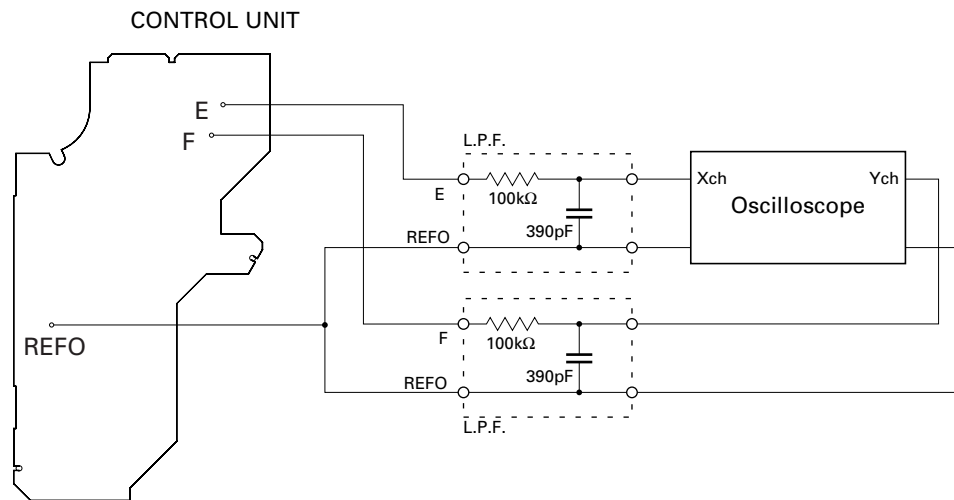
To check that the grating is within an acceptable range when the PU unit is changed.

• Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

• Method :

- | | |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points | • E, F, REFO |
| • Disc | • ABEX TCD-784 |
| • Mode | • TEST MODE |



• Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the ► and ◀ buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3 2 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

• Note

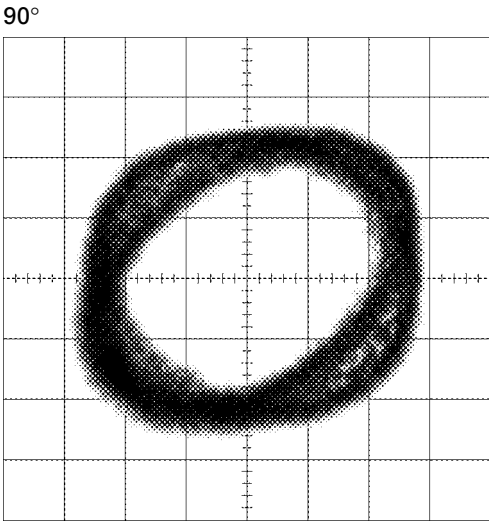
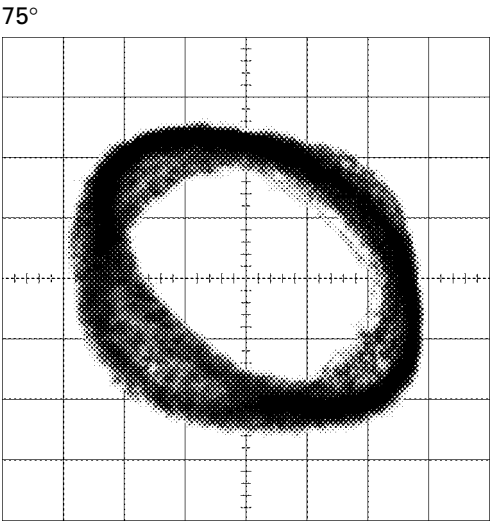
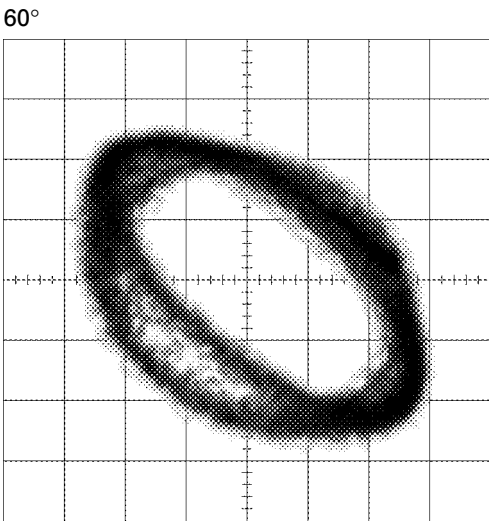
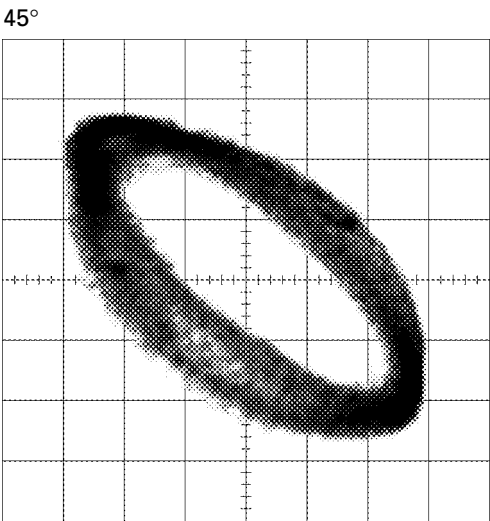
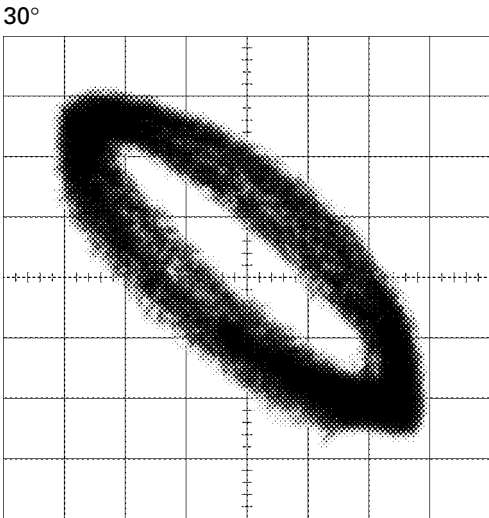
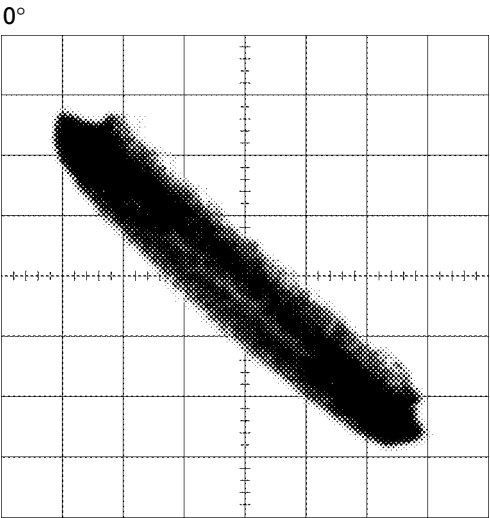
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• Hint

Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC



7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

● Error Messages

If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

(1) Basic Indication Method

1) When SERRORM is selected for the CSMOD (CD mode area for the system), error codes are written to DMIN (minutes display area) and DSEC (seconds display area). The same data is written to DMIN and DSEC. DTNO remains in blank as before.

2) Main unit display examples

Depending on display capability of LCD used, display will vary as shown below. xx contains the error number.

8-digit display	6-digit display	4-digit display
ERROR-xx	ERR-xx	E-xx
	OR	
	Err-xx	

(2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG	CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism.
11	Electricity	Focus Servo NG	Focusing not available. → Stains on rear side of disc or excessive vibrations on REWRITABLE.
12	Electricity	Spindle Lock NG	Spindle not locked. Sub-code is strange (not readable). → Failure on spindle, stains or damages on disc, or excessive vibrations.
		Subcode NG	A disc not containing CD-R data is found. Turned over disc are found, though rarely. → Failure on home switch or CRG move mechanism.
		RF AMP NG	An appropriate RF AMP gain can't be determined. → CD signal error.
17	Electricity	Setup NG	APC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations.
30	Electricity	Search Time Out	Failed to reach target address. → CRG tracking error or damages on disc.
A0	System	Power Supply NG	Power (VD) is ground faulted. → Failure on SW transistor or power supply (failure on connector).

Remarks: Mechanical errors are not displayed (because a CD is turned off in these errors).

Unreadable TOC does not constitute an error. An intended operation continues in this case.

A newly designed main unit must conform to the example given above.

Upper digits of an error code are subdivided as shown below:

1x: Setup relevant errors, 3x: Search relevant errors, 3x: Search relevant errors, Ax: Other errors.

● New Test Mode

S-CD plays the same way as before.

If an error such as off focus, spindle unlocking, unreadable sub-code, or sound skipping occurs after setup, its cause and time occurred (in absolute time) are displayed.

During setup, operational status of the control software (internal RAM: CPOINT) is displayed.

These displays and functions are prepared for enhancing aging in the servicing and efficiency of trouble analysis.

(1) Shifting to the New Test Mode

- ① Turn on the current test mode.
 - ② Select S-CD for the source through the specified procedure including use of the [SOURCE] key, and inserting the disc. Then, press the [6] key while maintaining the regulator turned off.
 - ③ After the above operations, the new test mode remains on irrespective of whether the S-CD is turned on or off.
- You can reset the new test mode by turning on the reset start.

* With some products, the new test mode can be reset through the same operations as that employed for shifting to the STBY mode (while maintaining the Acc turned off).

(2) Key Correspondence

Key	Test mode		New test mode	
	Power Off	Power On	In-play	Error Production
BAND	To power on (offset adjustment performed)	To power off	–	Time/Err.No. switching
▶	–	FWD-Kick	FF/TR+	–
◀	–	REV-Kick	REV/TR-	–
1	–	T.Close (AGC performed) /parameter display switching	Scan	–
2	RF AMP gain switching	Parameter display switching /T.BAL adjustment/T.Open	Mode	–
3	To power on (offset adjustment not performed)	F.Close/RF AGC/F.T.AGC	–	–
6	–	F.Mode switching /T.Close (no AGC)/Jump switching	Auto/Manu	T.No./Time switching

Note: Eject and CD on/off is performed in the same procedure as that for the normal mode.

(3) Cause of Error and Error Code

Code	Class	Contents	Description and cause
40	Electricity	Off focus detected.	FOK goes low. → Damages/stains on disc, vibrations or failure on servo.
41	Electricity	Spindle unlocked.	FOK = Low continued for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
42	Electricity	Sub-code unreadable.	Sub-code was unreadable for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
43	Electricity	Sound skipping detected.	Last address memory function was activated. → Damages/stains on disc, vibrations or failure on servo.

Note: Mechanical errors during aging are not displayed.

The error codes should be indicated in the same way as in the normal mode.

(4) Display of Operational Status (CPOINT) during Setup

Status No.	Contents	Protective action
00	CD+5V ON process in progress.	None
01	Servo LSI initialization (1/3) in progress.	None
02	Servo LSI CRAM initialization in progress.	None
03	Servo LSI initialization (2/3) in progress.	None
04	Offset adjustment (1/3) in progress.	None
05	Offset adjustment (2/3) in progress.	None
06	Offset adjustment (3/3) in progress.	None
07	FZD adjustment in progress.	None
08	Servo LSI initialization (3/3) in progress.	None
10	Carriage move to home position started.	None
11	Carriage move to home position started.	None
12	Carriage is moving toward inner diameter.	Specified 10 seconds has been passed or failure on home switch.
13	Carriage is moving toward outer diameter.	Specified 10 seconds has been passed or failure on home switch.
14	Carriage outer kick in progress.	None
15	Carriage outer diameter feed (1 second) in progress.	None
20	Servo close started.	None
21	Pre-processing for focus search started.	None
22	Spindle rotation and focus search started.	None
23	Waiting for focus close (XSI=Low).	Specified focus search time has been passed.
24	Standing by after focus close is over.	Specified focus search time has been passed.
25	Focus search preprocessing is in progress while setup protection is turned on.	None
26	Focus search preprocessing is in progress while focus recovery is turned on.	None
27	Wait time after focus close is set up.	Off focus.
28	Standing by after focus close is over.	Off focus.
29	Setup (1/2) before T balance adjustment is started.	Off focus.
30	Setup (2/2) before T balance adjustment is started.	Off focus.
31	T balance adjustment started.	Off focus.
32	T balance adjustment (1/2).	Off focus.
33	T balance adjustment (2/2).	Off focus.
34	Waiting for spindle rotation to end. Spindle rough servo.	Off focus.
35	Standing by after spindle rough servo is over.	Off focus.
36	RF AGC started.	Off focus.
37	RF AGC started.	Off focus.
38	RF AGC ending process in progress.	Off focus.
39	Tracking close in progress.	Off focus.
40	Standing by after tracking is closed. Carriage closing in progress.	Off focus.
41	Focus/tracking AGC started.	Off focus.
42	Focus AGC started.	Off focus.
43	Focus AGC in progress.	Off focus.
44	Tracking AGC in progress.	Off focus.
45	Standing by after focus/tracking AGC are over.	Off focus.
46	Spindle processes applicable servo.	Off focus.
47	Check for servo close is started.	Off focus.
48	Check of LOCK pin started.	Off focus or spindle not locked.
49	RF AGC started.	Off focus.
50	RF AGC in progress.	Off focus.
51	Standing by after RF AGC is over.	Off focus.

(5) Display Examples

1) During Setup (When status no. = 11)

TRK No.	MIN.	SEC.
11	11'	11"

2) During Operation (TOC read, TRK search, Play, FF and REV)

The same as in the normal mode.

3) When a Protection Error Occurred

Switch to the following displays (A) and (B) using the [BAND] switch:

(A) Error occurrence timing display in absolute time.

An example: Error occurred in 12th tune at 34'56" in absolute time.

TRK No.	MIN.	SEC.
12	34'	56"

(B) Error No. display

An example: Error #40 (Off focus is detected)

ERROR-40

7.1.2 DISASSEMBLY

● Removing the Case (not shown)

1. Remove the Case.

● Removing the CD Mechanism Module (Fig.1)

- 1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

● Removing the Grille Panel Assy (Fig.1)

- 2 Remove the two screws and then remove the Grille Panel Assy.

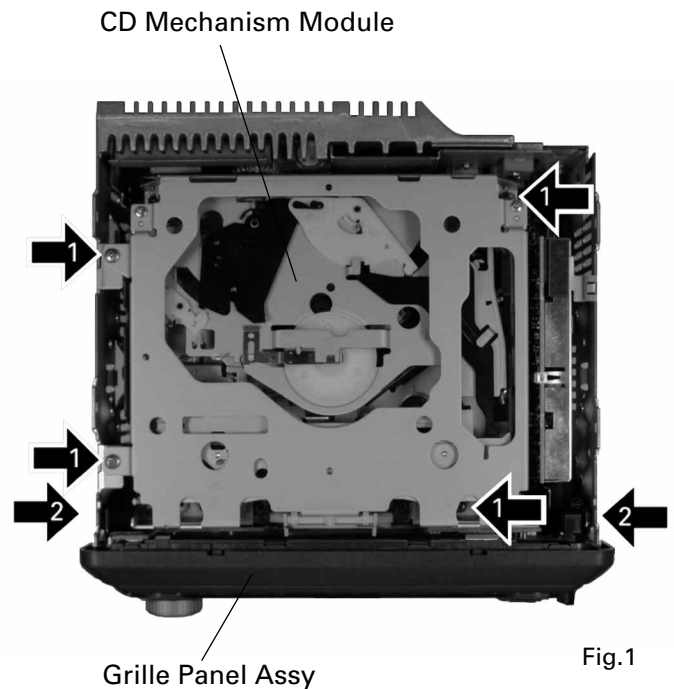


Fig.1

● Removing the Tuner Amp Unit (Fig.2)

- 1 Remove the two screws.
- 2 Straight the tabs at three locations indicated.
- 3 Remove the screw.
- 4 Remove the three screws and then remove the Tuner Amp Unit.

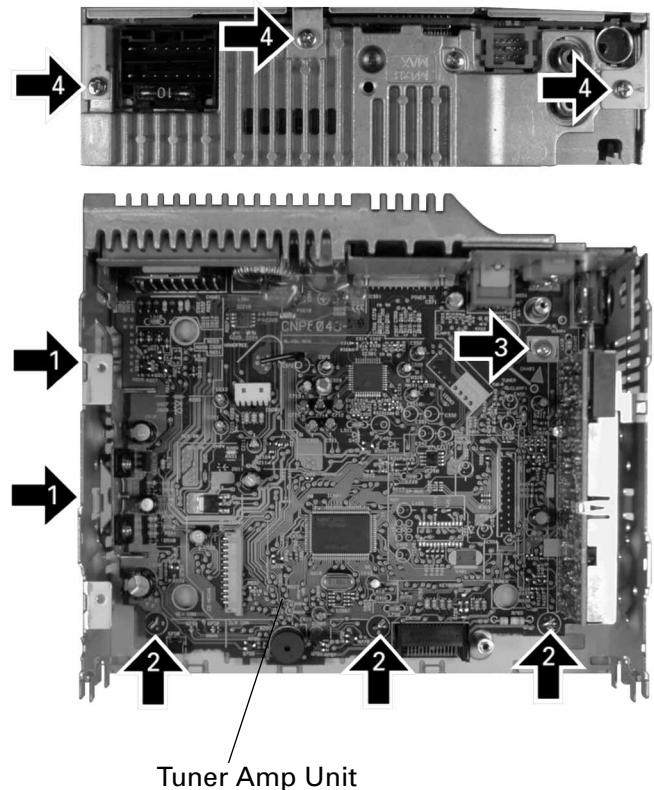
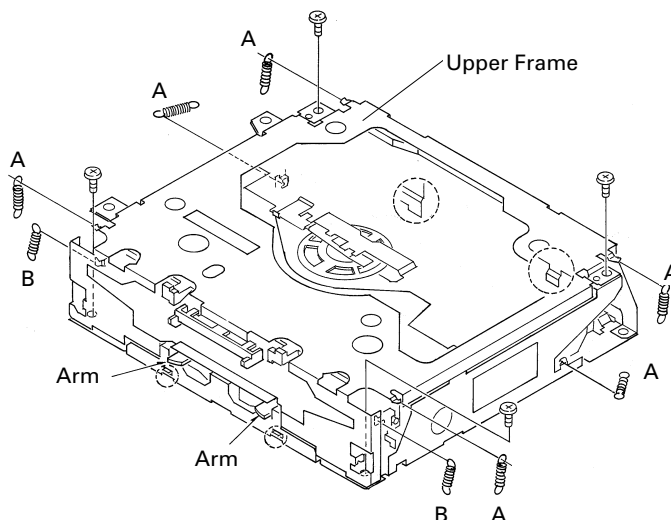


Fig.2

*) Tuner Amp Unit is different partially from this photo.

● Removing the Upper Frame

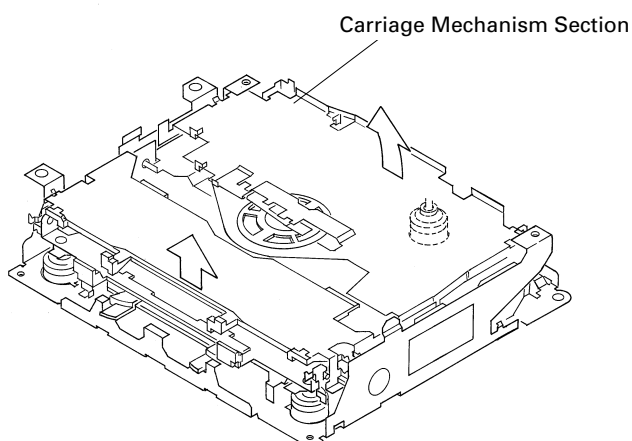
1. Remove six Springs A, two Springs B and four Screws.
2. Remove two Tabs situated on rear side of the Upper Frame, remove two Arms on the front side, then remove two Tabs on the front side.



● Removing the Carriage Mechanism

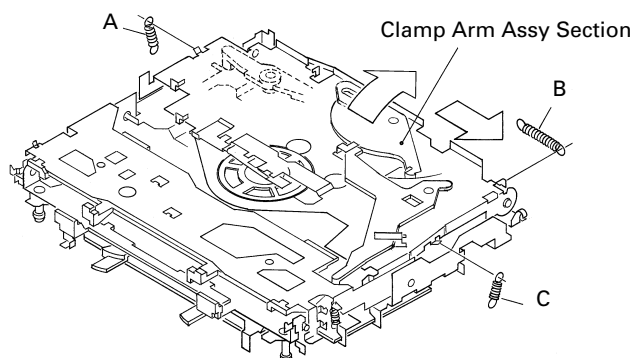
1. Disengage the Carriage Mechanism from the two dampers situated in the front side by driving it up, then disengage and remove the mechanism from the two dampers by driving it up aslant into front side direction.

Note : When assembling the Carriage Mechanism, coat the dampers with alcohol prior to the assembly.



● Removing the Clamp Arm Assy

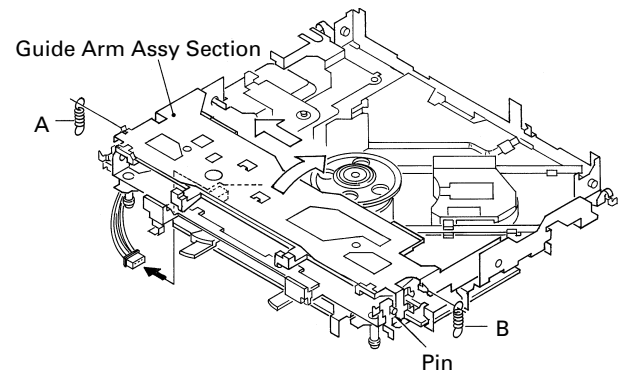
1. Remove a Spring A, a B and a Spring C.
2. Drive the Clamp Arm Assy up into rear side direction, then disengage the arm from its current position. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward right side to remove it.



● Removing the Guide Arm Assy

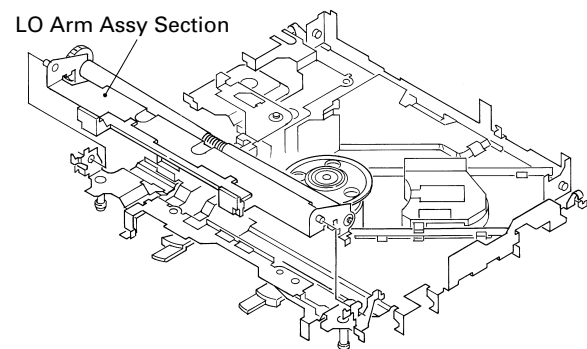
1. Remove a connector, a spring A and B
2. Drive the Guide Arm Assy up aslant into rear side direction, then remove it from a Pin. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward left side to remove it.

Note : When assembling the guide arm assembly, route the cord inside the assembly. In this operation, care must be exercised so that cord may be caught by the gear.



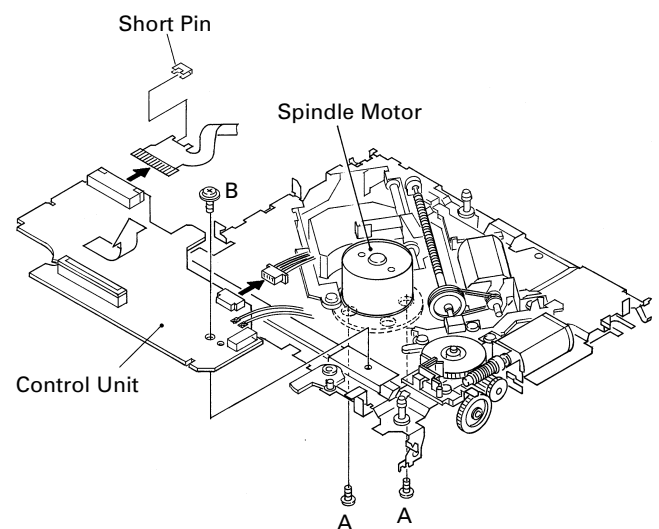
● Removing the LO Arm Assy

1. Remove two Pins to dismount the LO Arm Assy.



● Removing the Control Unit and the Spindle Motor

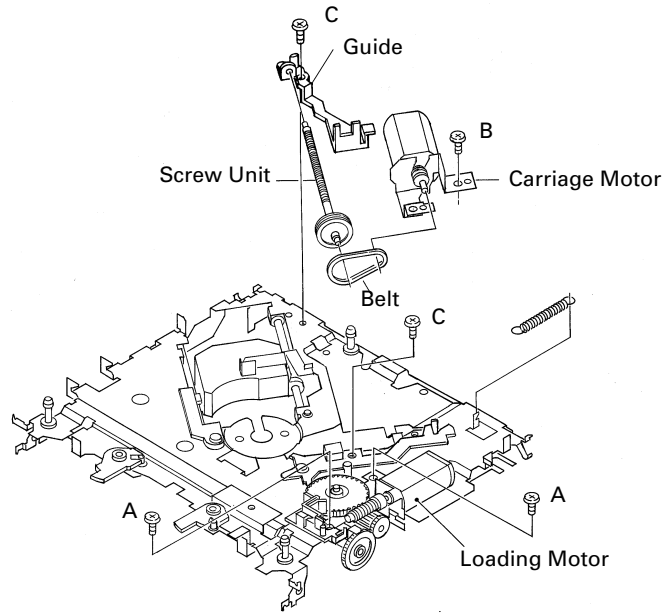
1. Remove from the connector after mounting the short pin on the flexible PCB of the pickup unit.
2. Remove two Soldered joints, then remove two Screws A.
3. Remove two connectors and a Screw B.
4. Disengage the Control Unit from two Tabs, then dismount the unit by sliding it toward left.
5. Dismount the Spindle Motor.



● Removing the Loading Motor and Carriage Motor

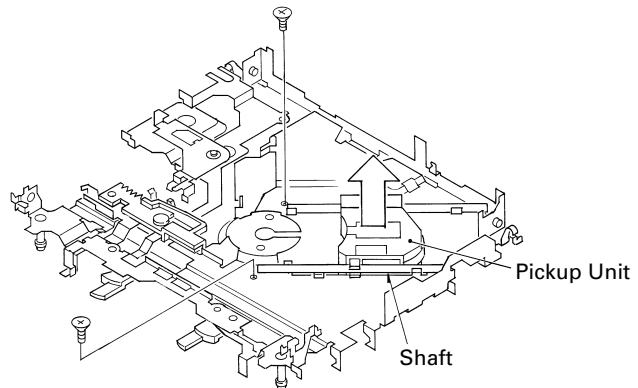
1. Remove the Spring and two Screws A.
2. Dismount the Loading Motor.
3. Remove the Belt, a Screw B, two Screws C, a Guide and a Screw Unit.
4. Dismount the Carriage Motor.

Note : When assembling the Belt, use care so that it may not be contaminated by grease.

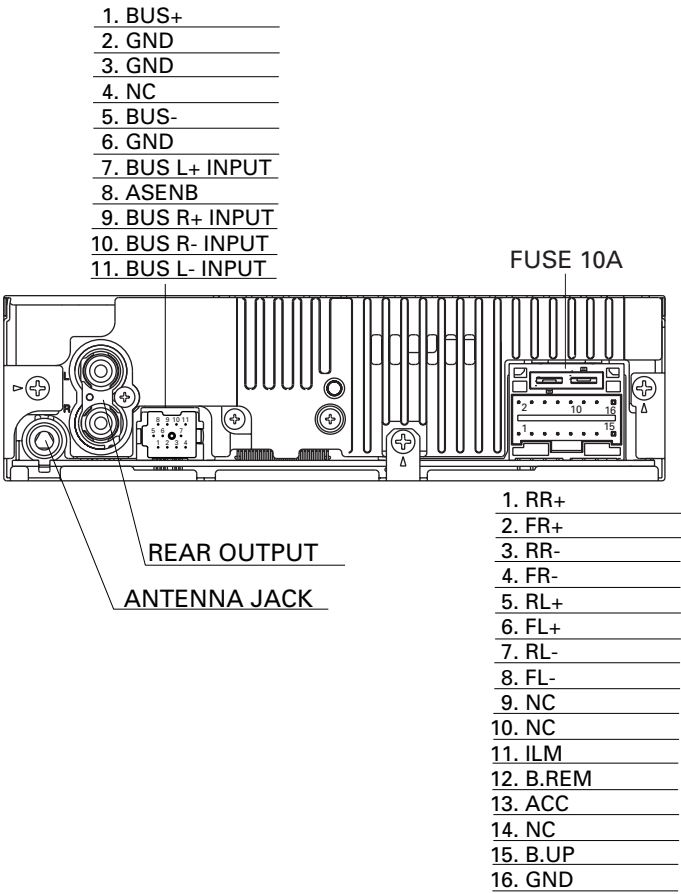


● Removing the Pickup Unit

1. Remove two Screws and a Shaft.
2. Dismount the Pickup Unit.

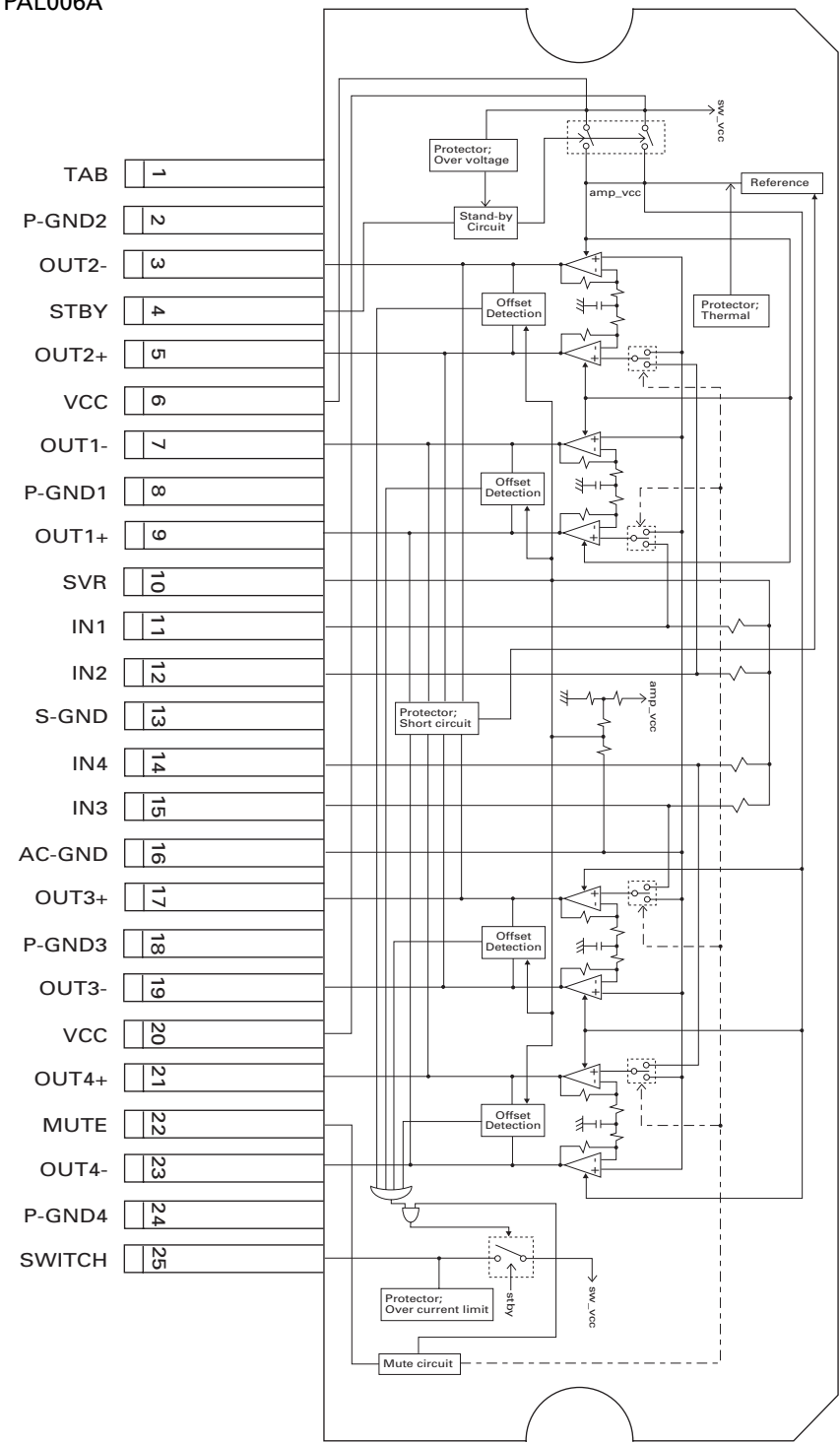


7.1.3 CONNECTOR FUNCTION DESCRIPTION

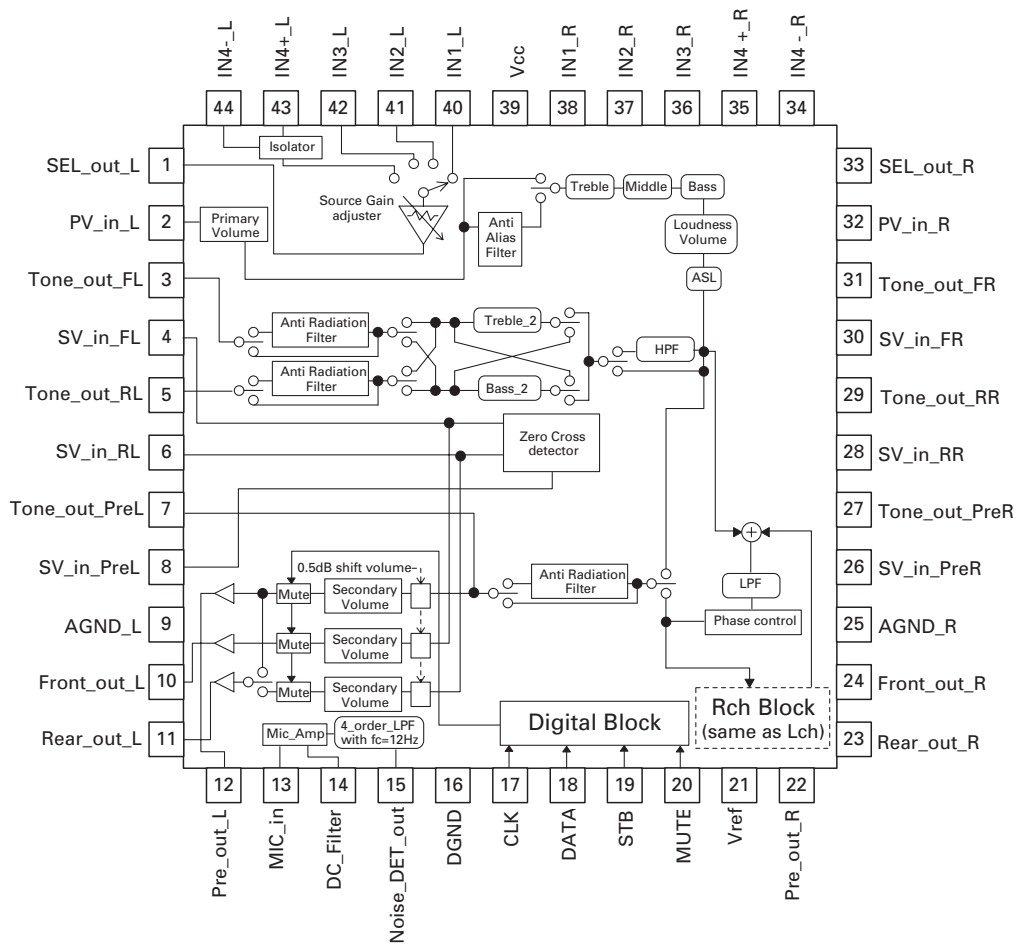


7.2 PARTS
7.2.1 IC

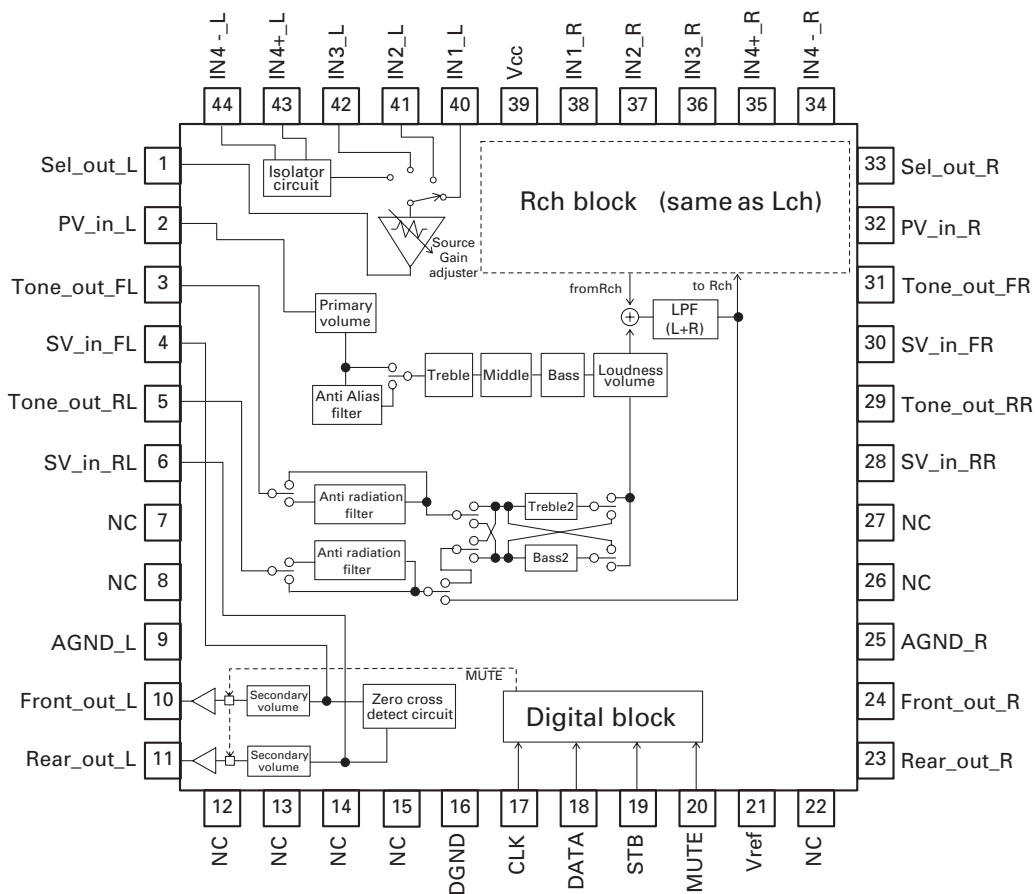
PAL006A



PML009A(DEH-P330/X1N/UC)



PML008A(DEH-P3300/X1N/UC, DEH-P33/X1N/UC)

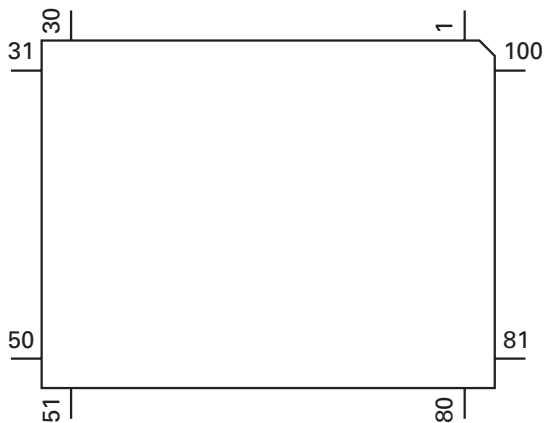


● Pin Functions (PE5203A)

Pin No.	Pin Name	I/O	Function and Operation
1	NC		Not used
2	$\overline{\text{DSENS}}$	I	Grille detach sense input
3	NC		Not used
4	EJECTIN	I	Eject sense input
5	TESTIN	I	Test program mode input
6	LCDPW	O	LCD back light power supply control output
7	TELIN	I	Telephone mute input
8	$\overline{\text{ISENS}}$	I	Illumination sense input
9	FLPILM	O	Flap illumination input
10	DALMON		For consumption low-current
11	$\overline{\text{RESET}}$	I	Reset input
12	NC		Not used
13	XT1		Clock connection pin
14	VSS(GND)		GND
15	X2		Crystal oscillator connection pin
16	X1		Crystal oscillator connection pin
17	REGOFF		Regulator operation specification signal
18	REGC		Capacitor for regulator connect pin
19	VDD		Power supply
20	ILMPW	O	Illumination power supply control output
21	SYSPW	O	System power control output
22	$\overline{\text{ADPW}}$	O	A/D converter power supply control output
23	SWVDD	O	Grille:Chip enable output
24	IPPW	O	Power supply control output for IP BUS interface IC
25	ROT1	I	Rotary input 1
26	ROMDATA	O	ROM collection data output
27,28	NC		Not used
29	ROT0	I	Rotary input 0
30,31	NC		Not used
32	$\overline{\text{PCE2}}$	O	EEPROM chip enable output
33	STB	O	Strobe pulse output for electronic volume
34	CLK	O	Clock output for electronic volume
35	DATA	O	Data output for electronic volume
36	NC		Not used
37	MUTE	O	System mute output
38	SD	I	Station detector input
39	$\overline{\text{ST}}$	I	FM stereo input
40	VSS(GND)		GND
41	VDD		Power supply
42-49	NC		Not used
50	LOCL	O	Local L output
51	LOCH	O	Local H output
52	NC		Not used
53	EJECT	O	CD:Load motor eject output
54	LOCK	I	CD:Disc spindle lock input
55	CD5VON	O	CD:+5V power supply control output
56	$\overline{\text{CLAMP}}$	I	CD:Disc clamp input
57	VDCONT	O	CD:VD power control output
58	NC		Not used
59	FOK	I	CD:Focus OK signal input
60,61	NC		Not used
62	PCL		Clock adjustment
63	CONT	O	CD:Servo driver power supply control output
64	CDLOAD	O	CD:LOAD motor loading control output
65	$\overline{\text{XSCK}}$	O	CD:LSI clock output
66	XSI	I	CD:LSI data input
67	XSO	O	CD:LSI data output
68	XA0	O	CD:LSI command / data control output

Pin No.	Pin Name	I/O	Function and Operation
69	$\overline{\text{XRST}}$	O	CD:LSI reset control output
70	XSTB	O	CD:LSI strobe output
71	ASENBO	O	IP-BUS:Slave power supply control output
72	MUTE	O	E.VOL:Mute control output
73	TEST(GND)	I	GND
74	SL	I	TUNER:Signal level input
75	NC		Not used
76	MODELIN	I	Model select input
77-80	NC		Not used
81	TEMP	I	CD:Temperature sense input
82	AVDD		A/D converter power supply terminal
83	AVREF		A/D converter reference voltage terminal
84	AVSS		GND
85	RX	I	IP-BUS:data input
86	TX	O	IP-BUS:data output
87	NMI		GND
88-91	NC		Not used
92	$\overline{\text{ASENS}}$	I	ACC power sense input
93	$\overline{\text{BSENS}}$	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	KYDT	I	Grille data input
96	DPDT	O	Grille data output
97	PCK	O	PLL IC clock output
98	PDO	O	PLL IC data output
99	PCE	O	PLL IC chip enable output
100	PEE	O	Beep tone output

*PE5203A



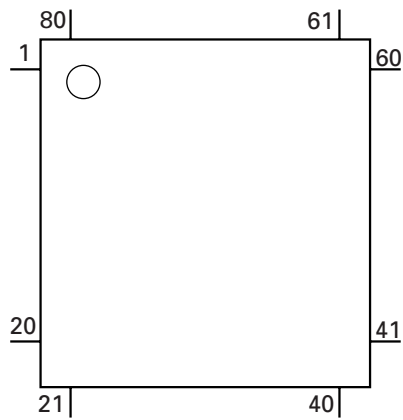
IC's marked by* are MOS type.

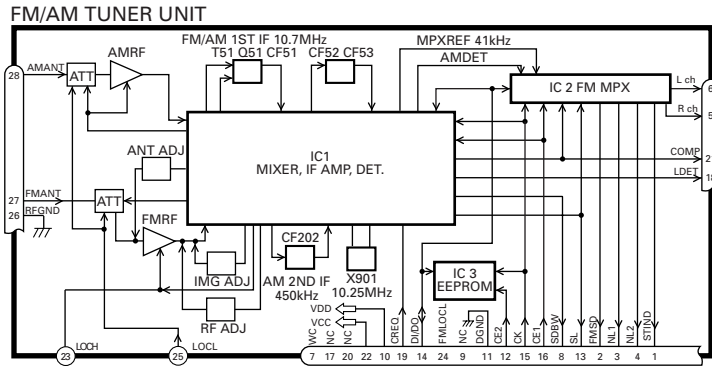
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● Pin Functions (PD6294A)

Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	X1		Crystal oscillator connection pin
3	X0		Crystal oscillator connection pin
4	NC		Not used
5,6	MOD1,0	I	Connect to GND
7	DIMMER	O	Dimmer select output
8	KYDT	O	Key data output
9	DPDT	I	Display data input
10	REMIN	I	Remote control pulse input
11	GRN		Dual Illumination (Green)
12	AMB		Dual Illumination (Amber)
13-16	KD4-1	I	Key data input
17-22	KST6-1	O	Key strobe output
23	VDD		VDD
24-73	SEG49-0	O	LCD segment output
74-77	COM3-0	O	LCD common output
78	VLCD	I	LCD voltage input
79,80	V2,1		Power supply terminal

*PD6294A





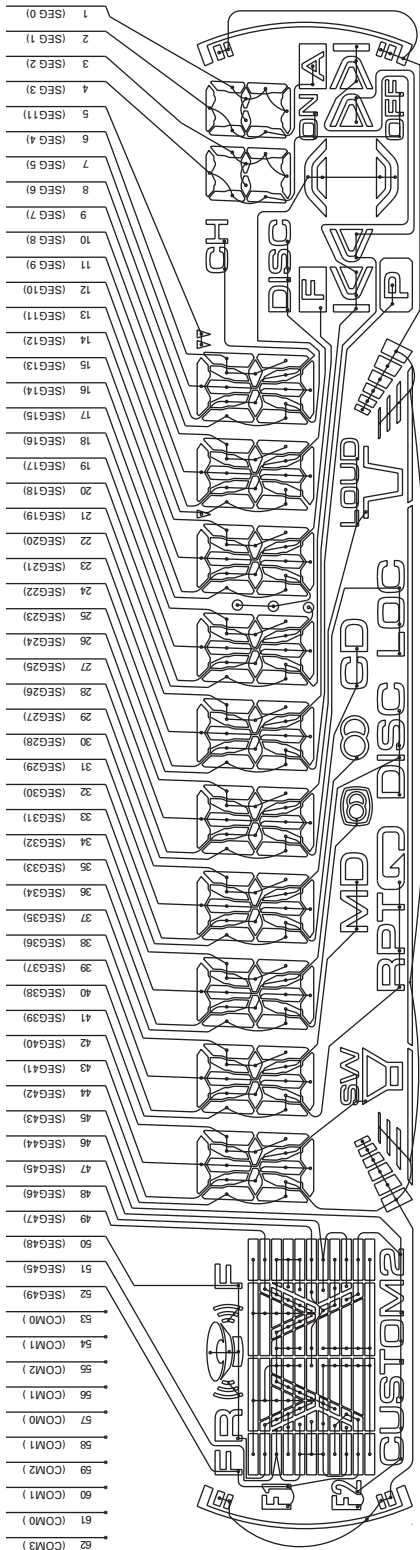
Pin Functions

No.	Symbol	I/O	Explain	
1	STIND	O	stereo indicator	"Low" when the FM stereo signals are received. To be pulled up to the "VDD" at 47kΩ.
2	FMSD	O	FM station detector	"High" when signals are received. To be pulled up to the "VDD" at 47kΩ. Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less". (Should satisfy the diver IC specifications)
3	NL1	O	noise level-1	"High" when noise is received. Output for the RDS. GND at 47kΩ //1,800pF.
4	NL2	O	noise level-2	"High" when noise is received. Output for the RDS. GND at 36kΩ //330pF.
5	Rch	O	R channel output	FM stereo "R-ch" signal output or AM audio output. Add the specified di-emphasis constant.
6	Lch	O	L channel output	FM stereo "L-ch" signal output or AM audio output. Add the specified di-emphasis constant.
7	WC		write control	EEPROM write control. Writing permissible at "Low". Normally open.
8	SDBW	O	SD bandwidth	SD bandwidth signal output. For detection of detuning data for the RDS.
9	NC			Not used
10	VDD		power supply	Power supply pin for the digital section. D.C. 5V +/- 0.25V. Be careful about overlapping noise in the logic section.
11	DGND		digital ground	Grounding for the digital section.
12	CE2	I	chip enable-2	EEPROM chip enable. Active a "Low". To be pulled up to the "VDD" at 47kΩ
13	SL	I/O	signal level	Received FM/AM signal level (strength) output. Connect the specified load resistor and capacitor (10k Ω + 39k Ω //4,700pF)
14	DI/DO	I/O	data input/ data output	Data input/Data output. To be pulled up to the "VDD" at 47kΩ
15	CK	I	clock	Clock input. To be pulled up to the "VDD" at 47kΩ
16	CE1	I	chip enable-1	AF-RF chip enable. Active at "High". To be grounded at 47kΩ
17	NC			Not used
18	LDET	O	lock detector	Active at "Low". To be pulled up to the "VDD" at 47kΩ
19	CREQ	I	current request	Active at "Low". To be grounded at 47kΩ
20	NC			Not used
21	COMP	O	composite signal	FM composite signal output. r out < 100Ω
22	VCC		power supply	Analog section power supply pin. D.C. 8.4V +/- 0.3V
23	LOCH	I	local high	FM local high pin. When seeking local high, apply 5V together with "LOCL".
24	FMLOCL	I	FM local low	FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter. Keep it open in case of ordinary marketed models.
25	LOCL	I	local low	FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor. Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM.
26	RFGND		RF ground	Grounding for the antenna section.
27	FMANT	I	FM antenna input	FM antenna input. 75Ω. Surge absorber (DSP-201M-S00B) is necessary.
28	AMANT	I	AM antenna input	AM antenna input. High impedance. Connect to the antenna through an L (LAU type) of 4.7μH. To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about 100mH) + R (a resistor of 470 Ω to 2.2kΩ) between the GND.

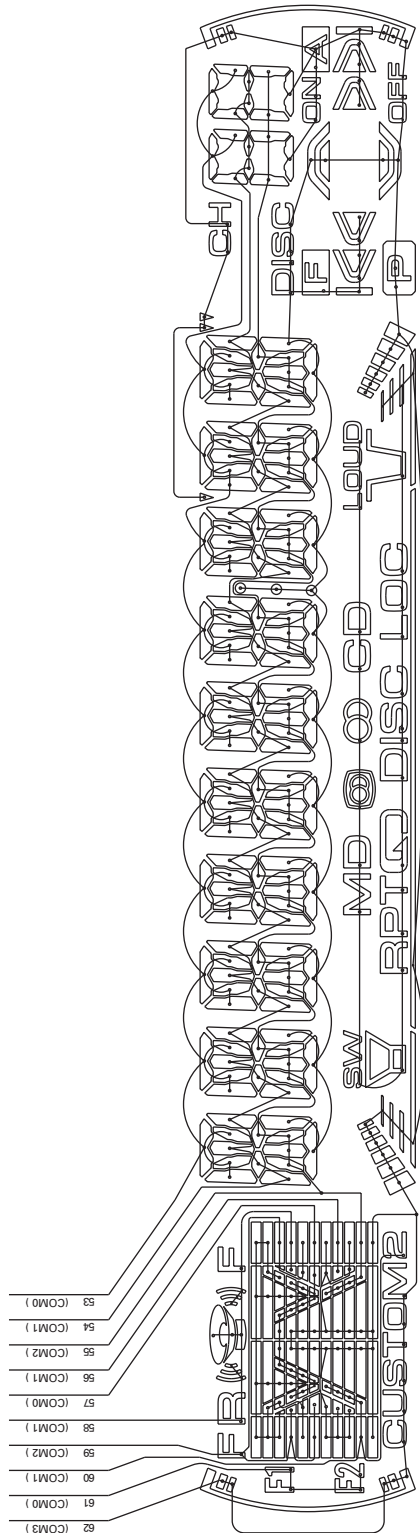
7.2.2 DISPLAY

● CAW1628

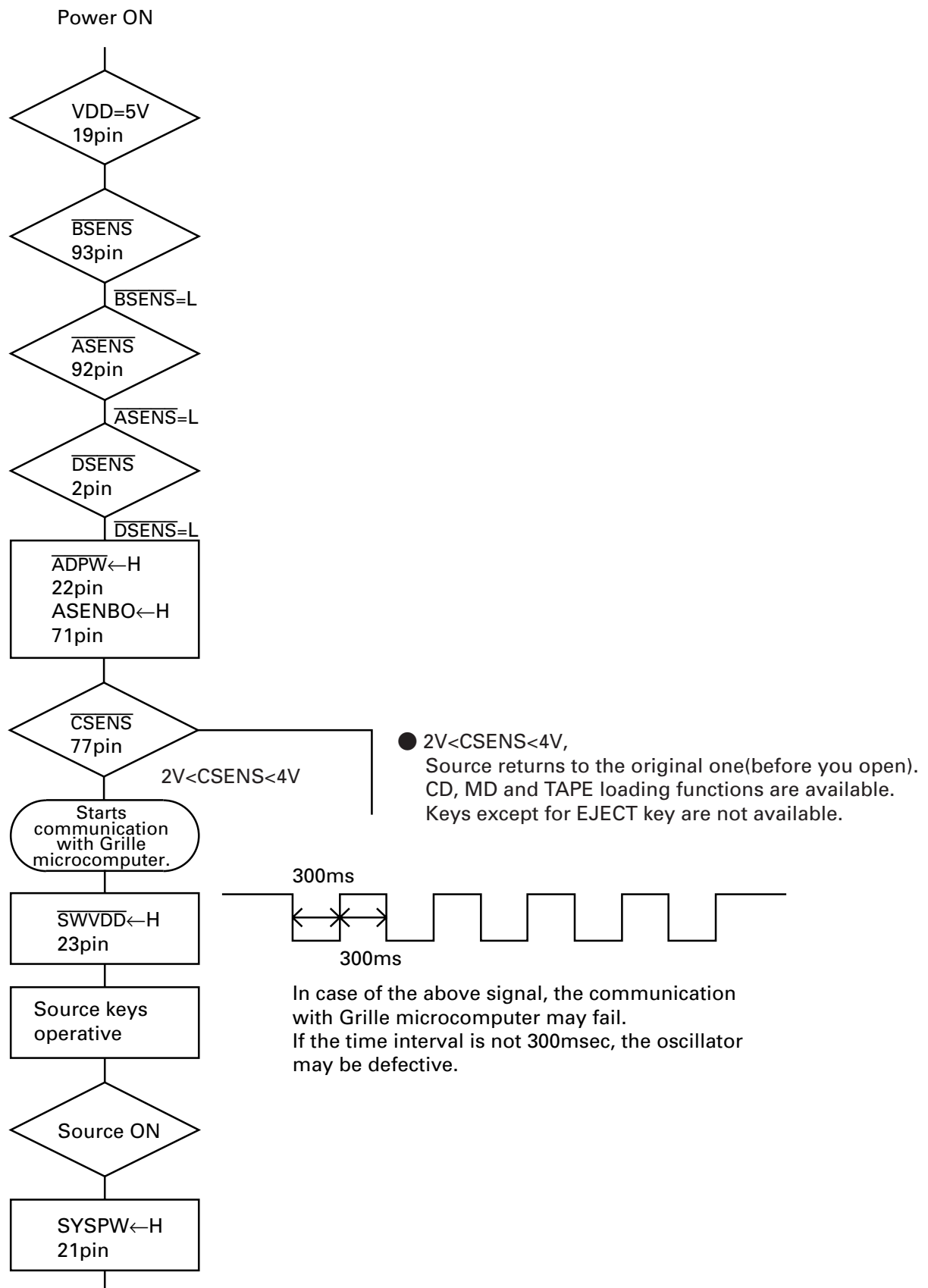
SEGMENT



COMMON



7.3 OPERATIONAL FLOW CHART



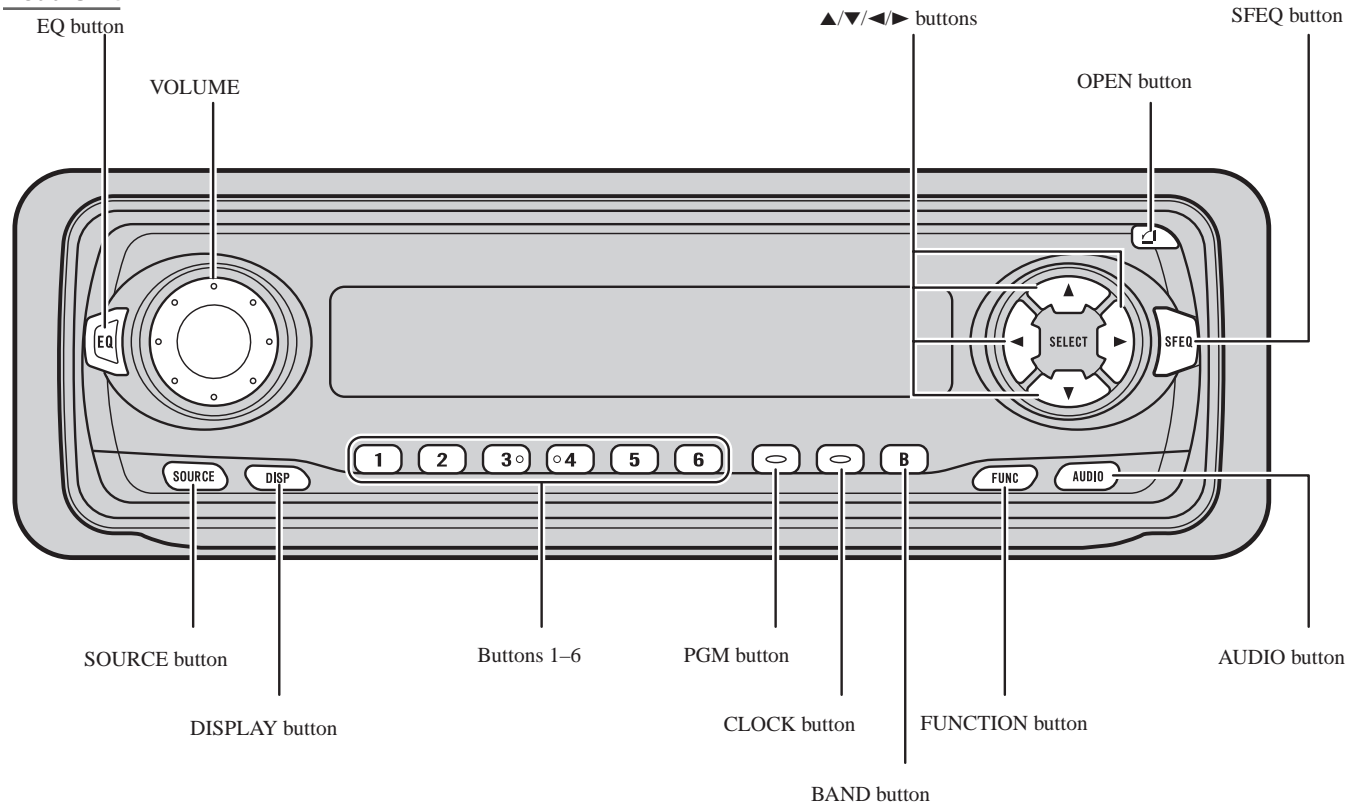
Completes power-on operation.
(After that, proceed to each source operation)

8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS(DEH-P330/X1N/UC)

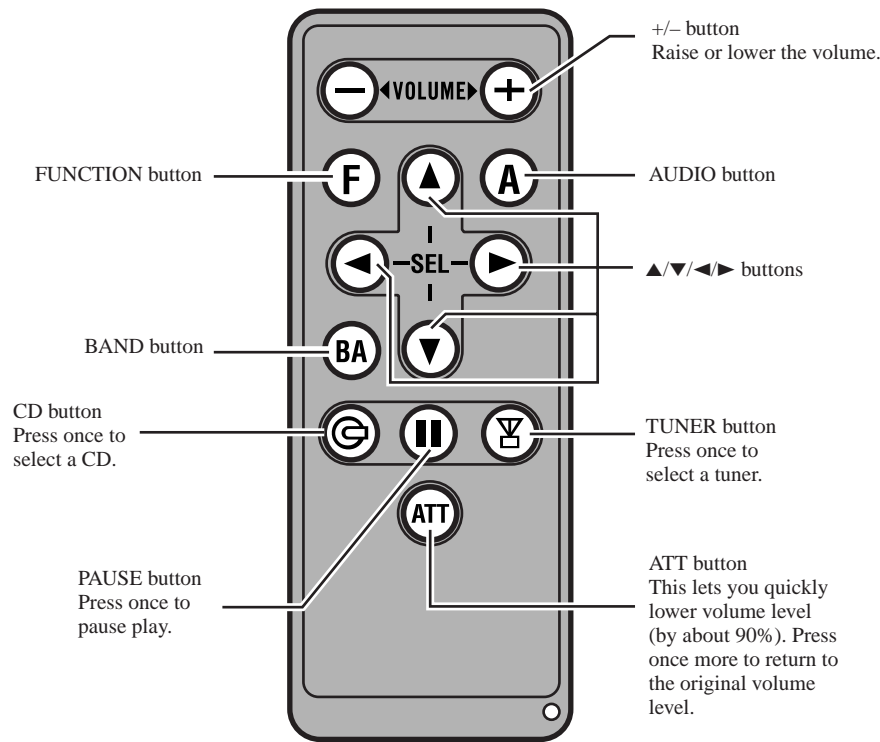
Key Finder

Head Unit



Remote Controller

A remote controller that enables remote operation of the head unit is supplied. Operation is the same as when using buttons on the head unit.



Basic Operation

To Listen to Music

The following explains the initial operations required before you can listen to music.

Note:

- Loading a disc in this product.

1. Select the desired source. (e.g. Tuner)



Each press changes the Source ...

Head Unit

Each press of the SOURCE button selects the desired source in the following order:
Built-in CD player → TV → Tuner → Multi-CD player → External Unit → AUX

Remote Controller

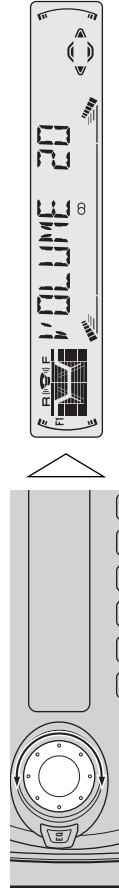
Each press of the button selects the desired source in the following order:

TUNER button : TV → Tuner → OFF
CD button : Built-in CD player → Multi-CD player → OFF

Note:

- External Unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this product. Only one External Unit can be controlled by this product.
- In the following cases, the sound source will not change:
 - When a product corresponding to each source is not connected to this product.
 - When no disc is set in this product.
 - When no magazine is set in the Multi-CD player.
 - When the AUX (external input) is set to OFF.
- When this product's blue/white lead is connected to the car's Auto-antenna relay control terminal, the car's Auto-antenna extends when this product's source is switched ON. To retract the antenna, switch the source OFF.

2. Raise or lower the volume.

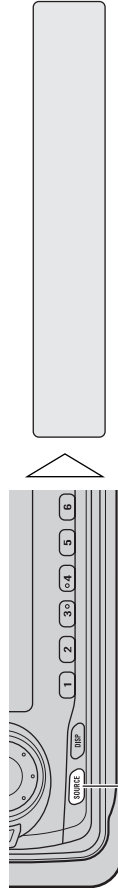


Rolling the VOLUME changes the volume level.

Note:

- Roll clockwise to raise the volume level.
- Roll counter-clockwise to lower the volume level.

3. Turn the source OFF.



Hold for 1 second

Basic Operation of Tuner

Manual and Seek Tuning

- You can select the tuning method by changing the length of time you press the ◀/▶ button.

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

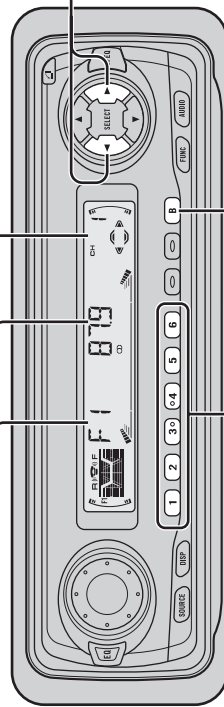
Note:

- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcasting stations. Seek Tuning starts as soon as you release the button.
- Stereo indicator "◯" lights when a stereo station is selected.

Frequency Indicator

Band Indicator

Preset Number Indicator



Preset Tuning

- You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

Note:

- Up to 18 FM stations (6 in F1 (FM1), F2 (FM2) and F3 (FM3)) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Basic Operation of Built-in CD Player

Note:

- Be sure to close the front panel after loading or ejecting a disc.

Switching the Display

Each press of the DISPLAY button changes the display in the following order:

→ Disc Title

Note:

- If you switch displays when disc titles have not been input, "NO TITLE" is displayed.

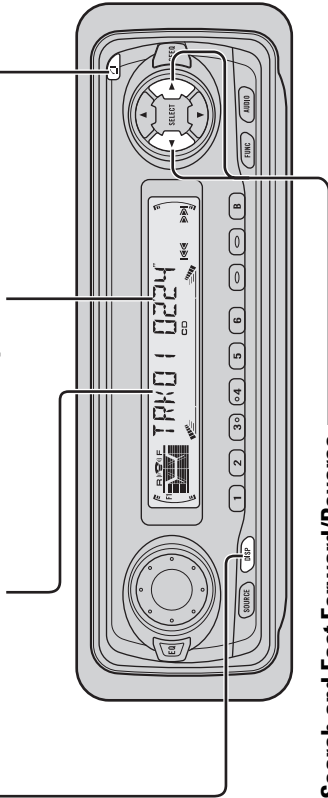
Open

Note:

- Use to open the front panel when loading or ejecting a CD. (The illustration on the right shows the front panel open.)

Track Number Indicator

Play Time Indicator



Track Search and Fast Forward/Reverse

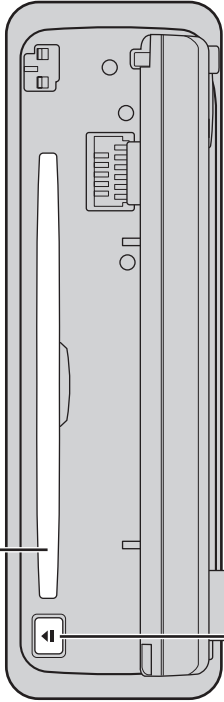
- You can select between Track Search or Fast Forward/Reverse by pressing the ◀/▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing

CD Loading Slot

Note:

- The Built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.
- Do not insert anything other than a CD into the CD Loading Slot.



Eject

Note:

- The CD function can be turned ON/OFF with the disc remaining in this product.
- A disc left partially inserted after ejection may incur damage or fall out.

Note:

- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down. Press the EJECT button and check the disc for damage before reinserting it.
- If the Built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display.
- The Built-in CD player is not equipped with CD TEXT function.
- A CD TEXT disc is a CD featuring recorded text information such as Disc Title, Artist Name and Track Title.

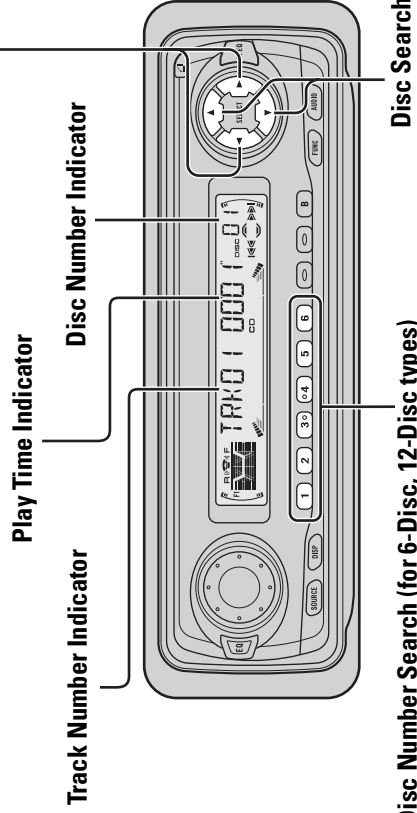
Basic Operation of Multi-CD Player

This product can control a Multi-CD player (sold separately).

Track Search and Fast Forward/Reverse

- You can select between Track Search or Fast Forward/Reverse by pressing the ◀/▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing



Disc Number Search (for 6-Disc, 12-Disc types)

- You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.

Note:

- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds.

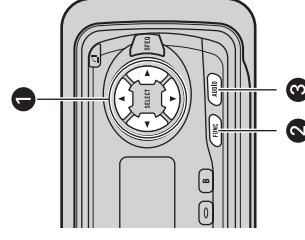
Note:

- The Multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- If the Multi-CD player cannot operate properly, an error message such as "ERROR-14" is displayed. Refer to the Multi-CD player owner's manual.
- If there are no discs in the Multi-CD player magazine, "NO DISC" is displayed.

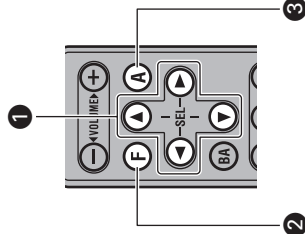
Corresponding Display Indications and Buttons

This product's display features Key Guidance Indicators. These light to indicate which of the ▲/▼/◀/▶, FUNCTION and AUDIO buttons you can use. When you're in the Function Menu, Detailed Setting Menu, Initial Setting Menu or Audio Menu, they also make it easy to see which ▲/▼/◀/▶ buttons you can use to switch functions ON/OFF, switch repeat selections and perform other operations. Indicator and corresponding buttons are shown below.

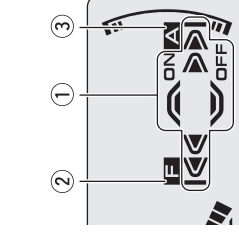
■ Head Unit



■ Remote Controller



■ Display



When ① is lit in the display, perform appropriate operations with the ① buttons.

When ② is lit in the display, it indicates that you are in the Function Menu, Detailed Setting Menu or Initial Setting Menu. You can switch between each of these menus and between different modes in the menu using button ② on the head unit or remote controller.

When ③ is lit in the display, it indicates you are in the Audio Menu. You can switch between modes in the Audio Menu using button ③ on the head unit or remote controller.

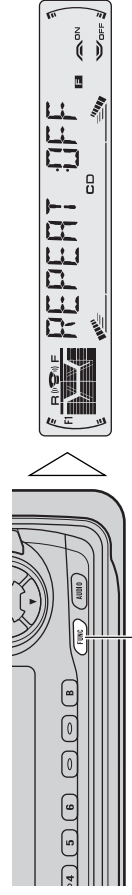
Entering the Function Menu

The Function Menu lets you operate simple functions for each source.

Note:

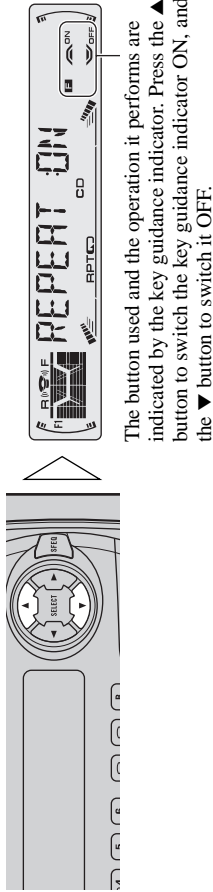
- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

1. Select the desired mode in the Function Menu.

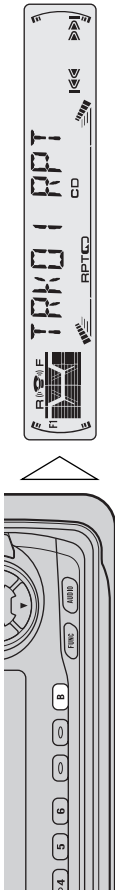


Basic Operation

2. Operate a mode. (e.g. Repeat Play)



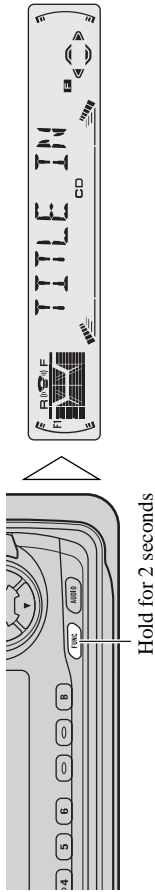
3. Cancel the Function Menu.



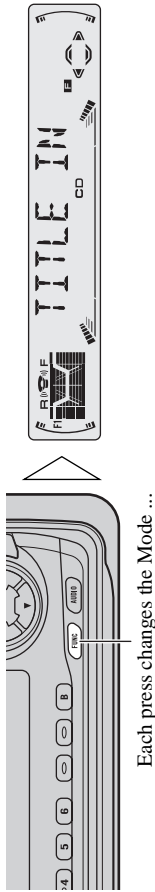
Entering the Detailed Setting Menu

In the Detailed Setting Menu, you can operate convenient, complex functions for each source.

1. Enter the Detailed Setting Menu.

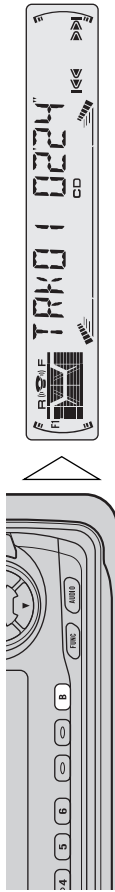


2. Select the desired mode.



3. Operate a mode.

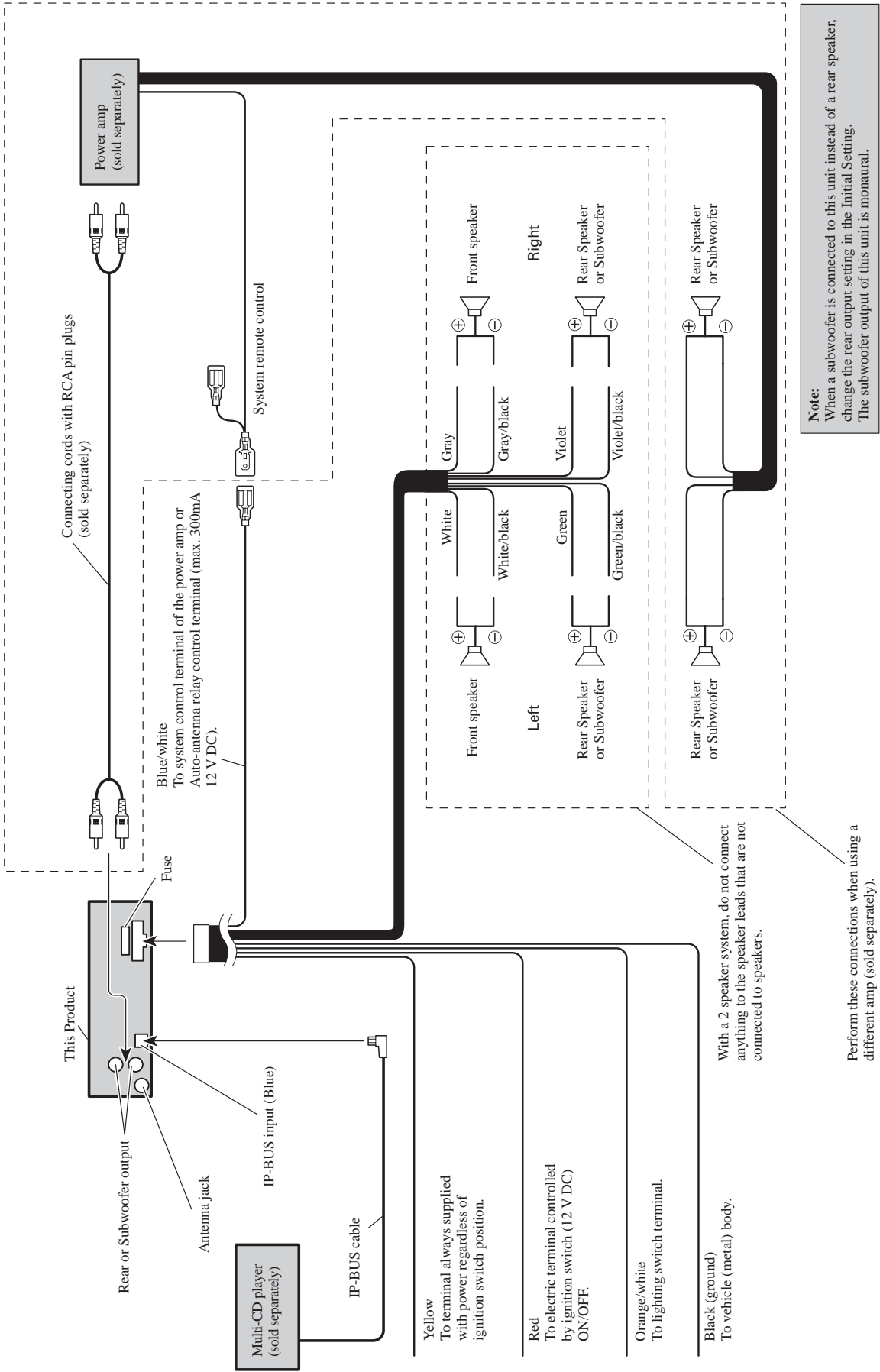
4. Cancel the Detailed Setting Menu.



Note:

- You can cancel the Detailed Setting Menu by pressing the FUNCTION button again for 2 seconds.

● CONNECTION DIAGRAM



8.2 SPECIFICATIONS

General

Power source	.....	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	.....	Negative type
Max. current consumption	.....	10.0 A
Dimensions		
(DIN) (chassis)	.....	178 (W) × 50 (H) × 157 (D) mm [7 (W) × 2 (H) × 6-1/8 (D) in]
(nose)	.....	188 (W) × 58 (H) × 19 (D) mm [7-3/8 (W) × 2-1/4 (H) × 3/4 (D) in]
(D) (chassis)	.....	178 (W) × 50 (H) × 162 (D) mm [7 (W) × 2 (H) × 6-3/8 (D) in]
(nose)	.....	170 (W) × 46 (H) × 14 (D) mm [6-3/4 (W) × 1-3/4 (H) × 1/2 (D) in]
Weight	.....	1.5 kg (3.3 lbs)
Backup current	.....	5mA

Amplifier

Continuous power output is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.		
Maximum power output	.....	50 W × 4 50 W × 2 ch/4 Ω + 70 W × 1 ch/2 Ω (for Subwoofer)
Load impedance	.....	4 Ω (4 – 8 Ω [2 Ω for 1 ch] allowable)
Preout maximum output level/ output impedance	.....	2.2 V/1 kΩ
Equalizer (3-Band Parametric Equalizer)		
(Low)	.....	Frequency: 40/80/100/160 Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB
(Mid)	.....	Frequency: 200/500/1k/2k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB
(High)	.....	Frequency: 3.15k/8k/10k/12.5k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: ±12 dB
Loudness contour		
(Low)	.....	+3.5 dB (100 Hz), +3 dB (10 kHz)
(Mid)	.....	+10 dB (100 Hz), +6.5 dB (10 kHz)
(High)	.....	+11 dB (100 Hz), +11 dB (10 kHz) (volume: –30 dB)
Tone controls		
(Bass)	.....	Frequency: 40/63/100/160 Hz Level: ±12 dB
(Treble)	.....	Frequency: 2.5k/4k/6.3k/10k Hz Level: ±12 dB
Subwoofer output(DEH-P3300,P33/X1M/UC)		
Frequency	.....	50/80/125 Hz
Slope	.....	–12 dB/oct
Gain	.....	±12 dB

CD player

System	.....	Compact disc audio system
Usable discs	.....	Compact disc
Signal format	.....	Sampling frequency: 44.1 kHz Number of quantization bits: 16; linear
Frequency characteristics	.....	5 – 20,000 Hz (±1 dB)
Signal-to-noise ratio	.....	94 dB (1 kHz) (IHF-A network)
Dynamic range	.....	92 dB (1 kHz)
Number of channels	.....	2 (stereo)

FM tuner

Frequency range	.....	87.9 – 107.9 MHz
Usable sensitivity	.....	9 dBf (0.8 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	.....	15 dBf (1.5 μV/75 Ω, mono)
Signal-to-noise ratio	.....	70 dB (IHF-A network)
Distortion	.....	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	.....	30 – 15,000 Hz (±3 dB)
Stereo separation	.....	40 dB (at 65 dBf, 1 kHz)
Selectivity	.....	70 dB (2ACA)
Three-signal intermodulation (desired signal level)	.....	30 dBf (two undesired signal level: 100 dBf)

AM tuner

Frequency range	.....	530 – 1,710 kHz (10 kHz)
Usable sensitivity	.....	18 μV (S/N: 20 dB)
Selectivity	.....	50 dB (±10 kHz)

Note:

- Specifications and the design are subject to possible modification without notice due to improvements.